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H. JAY HAYES

General Manager of the Eastman Metallic Body Co., of Cleveland

FOR AND ABOUT AUTOMOBILE CLUB MEN

348 miles in 8 hours,
44 minutes and 44
seconds
Average speed, 53
miles per hour
35 Horsepower Mors
racing vehicle

FOURNIER'S GREAT RECORD

Easily Distances Express Trains in Ride From
Paris to Bordeaux—Gordon Bennett
Cup Race a Fizzle

Winner's speed equals
a run from New
York to Buffalo in
10 1-4 hours
Speed outside of towns
equals New York to
Buffalo in 7 hours

Wonderful as have been the records made by the automobile in the past, all of its performances were placed in the shade by the ride of Henri Fournier in a 35-horsepower Mors vehicle, in the Paris to Bordeaux race on May 29.

Fournier covered 348 miles in 8 hours 44 minutes 44 seconds, reducing speed passing through towns. The average speed was about 40 miles an hour.

The contestants were instructed that they must limit their speed to twelve kilometers an hour in passing through Versailles, Chartres, Chateaudun, Vendome, Tours, Chatellerault, Poitiers, Ruffic, Augouleme and Libourne.

Fournier covered 330 miles, outside of the towns, in 6:11:44, an average of over 53 miles an hour.

It is estimated that at some parts of the journey his machine must have traveled at a rate of 75 miles.

There were really two races in one. It happened that the Gordon Bennett cup race was contested this year at the same time and place as the annual Paris-Bordeaux, but this event was thrown completely into the shade by the performances of the contestants in the other. The starters in the Bennett race were Charron, Levegh and Girardot, all of whom suffered more or less from accidents. The two first named collided with such disastrous results that they were unable to finish and their competitor, Girardot, scored a hollow victory, finishing eighth on the list and so far behind Fournier that his performance was completely dwarfed.

The Paris-Bordeaux race was won last year by Charron, in 11:4:20, so that the record was reduced in last week's race by no less than 2:58:36.

The race lost its international character by the withdrawal of the only German competitor and the disqualification of the only Englishman by reason of a technical-

ity. He was S. F. Edge, the famous cyclist formerly employed by the Dunlop Tire Co., and strange to say his disqualification was due to the fact that a puncture made a change of tires necessary at the last moment. The terms of the race provide that the machines must be made wholly in the country of their alleged origin and the substitution of French for English tires was not permissible. Edge started but arrived tenth. He used a 70-horsepower vehicle.

The second arrival was Farman, in a Panhard. He occupied 9:14:00, while the third man, Voigt, who also operated a Panhard, was 9:49:11, making the journey. All of these men were well within the previous record.

Before the race, Charron, who was the favorite at the start, had tested his machine over a distance of 112 miles in 2 hours 10 minutes.

Based on the Paris to Bordeaux speed, Fournier would require, to travel from New York to Buffalo, conditions being similar, 10 hours and a quarter.

In last week's race 330 miles, outside of towns, were covered in 6:11:44, an average riding rate a little over 58 miles an hour. That is to say, given a good road and possibility of going full speed all the way, Fournier might ride from New York to Buffalo in something over 7 hours. The Empire State express takes 8 hours and 15 minutes.

American track record for automobiles, held by Mr. Bostwick, is 5 miles in 7 minutes and 47 seconds. At this rate of speed it would take 8 hours 29 minutes and 43 seconds to cover the distance of 330 miles, accomplished by Fournier in 6:11:44.

Henri Fournier, the winner of the Paris-Bordeaux race, was the former cycle racing champion of France. With the introduction of motor cycles following the invention of the automobile, he was one of

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the first to see the possibilities of the engine driven two wheelers in the bicycle pace following game and was a pioneer in their use for this purpose in Paris. In the winter of 1898 he came to this country and brought a motorcycle, which he showed during the week of cycle races at Madison Square Garden. The machine was really a tandem, but he rigged and rode it as a single. The speed it showed on that occasion impressed the makers of man propelled multicycle pacing machines with its availability as a pace setter in substitution for the more expensive human power method then in vogue. The Waltham Mfg. Co., the maker of the multicycle pacers, quickly made a contract with Fournier and started the building of motor pacing tandems, which revolutionized the pace following game. Fournier was recognized during the ensuing season as the most skillful and daring of all the motor tandem engineers and most of the great victories and records of those days were made behind him.

Fournier returned to Paris early last spring and soon became the assistant and companion of Charron in his great road races and record rides. He now blossoms forth as a successful rival of the great French chauffeur in a competitive car. He is noted as the most daring of all the French chauffeurs and the racing vehicle he handled was built on the strength of the maker's confidence in Fournier's ability and courage to run it through at a gait hitherto unparalleled.

A London newspaper man recently arrived in this country who had seen Fournier just before his departure, during a call at the eastern office of the Age, said that Fournier had expressed his intention to him of bringing the car then building to this country to compete in the great Buffalo race, as soon as he could learn of the conditions and prizes. These have since been published and assure a contest of sufficient magnitude and money prize value to offer every inducement for his coming, so it is likely that the Paris-Bordeaux winning chauffeur and car will be seen in the great Erie-Buffalo race in September.



BUFFALO TEST COMMITTEE

New York, May 27. To the Editor.—Referring to the proposed test of the Automobile Club of America from New York to Buffalo, next fall, there seems to be some misunderstanding on the part of the press, as to the facts in relation to the technical committee of the automobile club, in relation to this matter. The technical committee prepared all the general rules and regulations for this test and turned them over to the board of

governors, who have approved them. The committee then decided, as five out of the eight members of the committee were manufacturers and would practically have entries in the test, that in order to avoid criticism, it would be wiser to request the club to put the actual charge of running the test under the supervision of a special committee, free from any manufacturers' interest, in order to avoid criticism on the part of any manufacturer, who was, or was not, represented on the committee. In compliance with the request of the technical committee, made at the suggestion of the technical committee, and at the special request of the chairman thereof, the board of governors has appointed a committee of three to take charge of it, who are entirely disinterested. This committee is composed of Messrs. W. M. Power, W. E. Scarratt and Harian W. Whipple.—Yours, etc., C. J. Field, Chairman Technical and Contest Committee.



WINTON ABANDONS HIS TRIP

Soon after passing Winnemucca, Nev., on June 1, Mr. Winton decided to abandon his attempt to ride from coast to coast. It is announced that he became thoroughly convinced of the impossibility of making the journey by the route selected, and a press dispatch says that he will make another trial with a specially built machine, though no doubt by some other route. At the time the trip was abandoned the vehicle had gone into a sand bank, from which it was impossible for the tourists to extricate it without assistance.



THE FIRST CLUB HOUSE

On or about August 1 the Massachusetts Automobile Club will take possession of the first club house ever built especially for an automobile club. The work is already well under way and the three story building will now go up rapidly. The location is between Exeter and Fairfield streets, Boston.

The building is the first section of a gigantic architectural scheme to be developed in the very near future, the subsequent buildings being of much the same general character in outward appearances. The architecture of the building is what might be termed the most modern American, being of a class distinctively its own and decidedly attractive. The building is to be of red brick with terra cotta trimmings, and one portion of it will be fireproof.

It is not, however, so much the general appearance of the building as its arrangements which make it unique and

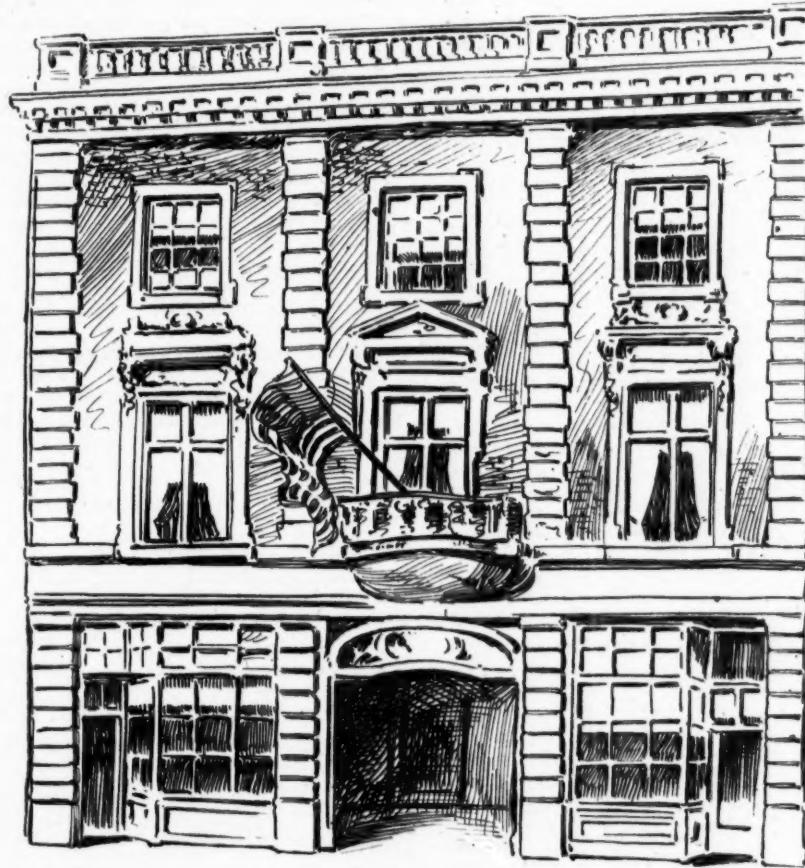
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attractive. There is not, in the entire building, a feature which fails to commend itself to the owners and users of motor vehicles.

Its location, being at what might be termed the entrance to the riding district, will recommend itself to those gentlemen who delight in traveling from their homes to business and return with

riages can be driven thereon from the street. At the outer end of the room is another washstand. An electric elevator, capable of holding and carrying the largest and heaviest of motor vehicles, is at the rear of the room, so that a vehicle can be carried from the basement to any floor of the house. In order to provide against emergencies an auxiliary



NEW HOME OF MASSACHUSETTS AUTOMOBILE CLUB.

their own machines. They can run it directly into the clubhouse and complete the remainder of the trip in town aboard cars without having to walk any considerable distance.

While the house is but three stories high, it practically has four stories, counting the basement. This will have a concrete floor, and will be entirely free from posts or such obstructions, giving a clear passage from one end of the building to the other. A washstand will be located at the entrance so that car-

elevator is located at the other end of the basement.

The first floor is much the same in a general way as is the basement. At the right of the main entrance is the reception room and stairs to the floors above. This reception room is also reached by an independent door from the street. The storing capacity of these two rooms is slightly over fifty machines.

On the second floor will be a large library, at the front of the building, while directly in the rear is a billiard room and

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the dining room. Entrance to any of these rooms is gained from a large vestibule at the head of the stairs, leading from which will be the steward's office and the cloak room. The greater portion of the top floor is to be used as the meeting room, while directly to its rear is the repair shop.

Some portions of the building, the basement and first floor, will be used by the club by the end of June. When completed the club will make special arrangements for the dedication.



CHICAGO CLUB RULES

In accordance with a resolution adopted at the last meeting of the Chicago Automobile Club, rules have been drawn for the government of club runs. They will probably prove as valuable as matters of the kind generally do. They are as follows:

Vehicles will leave the clubhouse in single file, maintaining the positions assigned them at the start.

Maintain at least fifty feet between vehicles.

Keep your position in line.

Do not pass the preceding vehicle unless latter is disabled.

A pacemaker will be supplied who will set the speed.

Whether these rules have been passed upon by the board of directors is unknown. There has been no general meeting of the club to act upon them.

On Saturday last there was a poor turnout of the members for the run around the Elgin-Aurora century course. The program called for a run to Elgin during the afternoon and a trip to Aurora and home on Sunday. Few of the members apparently were attracted by the intense excitement which would have resulted from a stay at Elgin over night.

The club is preparing for a three or four days' tour in the Wisconsin lake region the first week in July, and several members have promised to join the Motor Age tour to the Pan-American exposition in September.



RIDES FOR THE ALDERMEN

New York, June 1.—A general automobile speed ordinance is about to be enacted by the board of aldermen to embrace all of the city outside of the public parks, which are under the jurisdiction of the park commissioners. This ordinance will cover the entire city.

A hearing was set for yesterday afternoon and accordingly Messrs. Chamberlin and Church, of the law committee, Secretary Butler and A. C. Bostwick, of the A. C. A., and President Adams, of the

Long Island Automobile Club, were on hand. No one appeared in opposition.

There was, however, no quorum of the aldermanic committee, only Aldermen Marks and Burrell being present. The city fathers and the chauffeurs had an informal but satisfactory talk over the subject.

It was pointed out to the city legislators that under the provisions of the Doughty bill they had no power to pass any eight-mile-an-hour speed limit for those portions of the city not built up. The chauffeurs made an offer to give the aldermanic committee an actual demonstration of the ease of control in starting, turning and stopping of an automobile. It was further proposed to give a comparative speed test of a horse drawn and an auto propelled vehicle side by side that an idea might be given of what various speeds actually were in practice. Aldermen Marks and Burrell seemed much impressed and were sure the committee would gladly accept the chance to see the proposed demonstration.

The adjourned hearing will be held next Friday afternoon and representatives of the technical press will be asked to be present.



BOSTON TO NEW YORK

New York, June 3.—Kenneth A. Skinner, operating a 5-horsepower De Dion and accompanied by R. B. Bramwell, arrived here yesterday, having made the trip from Boston, 255 miles, in 18½ hours. On the journey but two stops to refill the gasoline and water tanks were made, the first one being after a run of 115 miles. Two records were established, one for the course and the other for fuel consumption.

Boston was left at a quarter past one o'clock in the morning, and the finish was made at the club house of the Automobile Club of America, at Fifth avenue and Fifty-eighth street, at a quarter to eight o'clock last evening.

The course was described as execrable between Boston and Bridgeport and fair from the latter city to New York.

The start was made from Copsley square, Boston, where P. C. Lewis took the time of the record riders. The night was pitchy dark, and a heavy mist added to its discomforts. Only a moderate pace was set out of Boston, and the fifty miles to Worcester was covered in 2 hours 55 minutes.

Not a single stop was made until Springfield, 115 miles from Boston, was reached, at twenty minutes to eight.

Hartford was reached at ten minutes to ten o'clock, and a stop of twenty minutes was made.

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At twenty minutes past twelve o'clock the chauffeurs drew up in New Haven, where they ate luncheon. At twenty minutes past one they began the race out of New Haven, and arrived at Bridgeport at a quarter past three o'clock in the afternoon. Here, the tanks for the second and last time were refilled, and the final stage of the journey was begun at half-past three o'clock.

Through Stamford, Greenwich, Port Chester, Mamaroneck, Larchmont and New Rochelle the noisy machine raced against time, speed being reduced as the automobilists entered the limits of the metropolis. The last few miles over the asphalt pavements of the city were made within the requirements of the law.

While eighteen and a half hours was the elapsed time, fifteen and a half hours was the running time, the average speed for 255 miles thus being more than sixteen miles an hour. Several stops had been made to decipher road signs, and at the place between Hartford and Springfield the riders had gone five miles out of their course.

Halts were frequently made to allow horses driven by women to pass, and once Mr. Skinner dismounted to quiet a fractious animal. The only mishap was a punctured tire, which was quickly repaired near Hartford.

* * *

AUTOS IN OLYMPIAN GAMES

Charron and other French automobile racing enthusiasts, are seeking to have automobile contests made a part of the Olympian games at Chicago in 1904. They assert that while such events would hardly be Greek-like, they are in keeping with twentieth century progress, as that automobile racing requires more nerve and skill than horse racing. The plan formulating is to start a movement for a road race from Chicago to some point within 500 miles.

Baron Coubertin, of the Olympian games committee, said that while the matter did not concern him in any way he believed that those that sought to introduce machinery at the Olympian games totally misunderstand the movement, which aims at the culture of muscles and not mechanics.

* * *

AUTOMEN WHO CRAWFISHED

Philadelphia, June 3.—The overplus of automobile "tournaments" which threatened this devoted city on Decoration Day "petered out" badly. A day or two before the holiday the promoters of the affair which was to have been held in the new ball park of the local American

league team, caused it to be announced that owing to the heavy rains of the preceding week it had been impossible to get the track in proper condition for the contests, and postponing the affair till Thursday night, June 6. That left the field open for the other fellows.

But the public failed to respond, owing either to the distance of Point Breeze track or the multiplicity of Decoration Day sporting events—or a combination of the two. Suffice it to say the big stands at the track looked deserted, some of the more charitable of the local sporting men giving it as "several hundred." Had there been a big crowd present it would have been the most disappointed aggregation that ever happened. Everything went wrong. In the first place that star card, the "go-devil," failed to show up. It and its owner, one Pennington, were stuck in the mud somewhere down in Delaware county. The "several hundred" spectators looked decidedly down in the mouth when this announcement was made, and the representatives of the war department, had they been present, would doubtless have shared in the feeling of gloom owing to the additional delay in the negotiations now pending for the transfer of the phenomenon to the United States government. The representatives of the Russian government, which is also said to be after the wonder, were also conspicuous by their absence.

However, there is a silver lining to every cloud, and the "several hundred" settled back in their seats happy in the consciousness that they were to see a 15-mile race for blood between Bob McCurdy, who professes to make records, and Oscar Eastlack, a thorough sport from Camden. But there was another disappointment in store for them. McCurdy failed to show up, failing even to send an excuse for his non-appearance. Eastlack, who had steam up, despite the fact that his is a gasoline machine, was exceeding wroth at being stood up in this manner and hurled a general defi at every automobilist on the grounds. The gage of battle was accepted by Samuel Clayton, of Media, but when the contestants were called by the clerk of the course, there was another mysterious disappearance, Mr. Eastlack being the only one to show up at the tape. The latter, perceiving that there was "nothing doing" for him, climbed onto his machine and went home, muttering anathemas and obscenities anent chauffeurs with "streaks of yellow" and "crawfish" in their anatomies.

Dr. Walker and P. M. Neill, who own gasolines, then got into a discussion as to the relative merits of their respective wagons, and agreed to go 5 miles to settle the question. Dr. Walker was the only

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one to keep the agreement, Neill's auto balking at the end of the second mile. Walker's time was 12:08.

The regularly scheduled 5-mile race for gasoline vehicles was appropriated by the Clark family, J. K. Clark (Autocar) crossing the tape in the lead in 11:47 2-5; J. S. Clark (Autocar) finishing second and Dr. W. C. Clark third. P. M. Neill's Duryea came in fourth.

John Wells brought his Howard carriage to the fore in the 5-mile race for steam carriages in the slow time of 15:53 4-5. H. Elliott was second and J. F. Plummer third.

A supplementary 5-mile race for gasolines was won by C. H. Burhan's Duryea in the fastest time of the day, 10:45 4-5. Ralph Derr's Autocar was second and J. G. Haslett's Autocar third. The Duryea did the last mile in 2:02 3-5.

As a finale to the day's sport Dr. Clark did an exhibition 2 miles in 4:40, the first mile in 2:19, the second in 2:21.



ST. LOUIS TO BUFFALO

J. Howard Holmes of 9 Portland place, St. Louis, and John J. Van Nostrand of Brooklyn, have started in an automobile for the Pan-American Exposition. Thence they expect to go to Oswego, N. Y., and subsequently to New York. When the trip is concluded they wish to be able to say that they have traveled 1,000 miles and spent a month in an automobile. Both are determined that they will go to Buffalo in an automobile and have adopted as their motto, "Buffalo or bust."

They will use a Mobile, the property of Mr. Van Nostrand, which has been fitted up with an extra gasoline tank so that it can run about 130 miles without replenishing the supply. No provision is made for carrying an unusual quantity of water, since they expect to be able to refill their water tank at any point along the route.

The start was made from the Mississippi Valley Automobile Co.'s rooms on Twelfth street. The young men will go through Terre Haute, Ind., Columbus, and Cleveland.



FAST KILOMETERS

The Automobile Club of Belgium held a kilometer automobile race, open to all classes of vehicles, May 19. The race was run on a road near Antwerp.

Mudler was winner in the motor bicycle class in 1 minute 15 seconds. In the motor cycle class Chisogne won on Clement tricycle in 1:01 1-5. In the class for volutelettes under 400 kilos in weight Dornier on a 4½-horsepower De Dion won in

1:08 4-5. For vehicles from 450 to 650 kilos, Dratz won on a 6-horsepower Deschamp in 1:18. For vehicles weighing over 650 kilos, but of less than 8-horsepower, Baguenieux won on a 7-horsepower Panhard-Levassor in 1:13 1-5. For vehicles of same weight and of less than 12-horsepower Roland won on an 8-horsepower Gobron-Brillie—a new machine—in :52. For vehicles of same weight and of less than 20-horsepower the drivers of a 12-horsepower Germain and a 16-horsepower Peugeot tied for first in :55. For steam vehicles Miesse won on his own machine in 1:00 4-5.



A. C. A. NOTES AND NEWS

As no attempt is made to enforce the illegal park speed ordinance the A. C. A. law committee is resting on its oars until an occurrence arises demanding its interference.

It is expected that the racing rules of the A. C. A., compiled by A. C. Bostwick and Dave H. Morris, will be issued in a few days.

The run to New Haven set for last Saturday and called off on account of the rain, has been abandoned. There was no club run Sunday, but there will be one to Tuxedo Saturday, starting at 9 a. m.

The members of the A. C. A. have been accorded the club privileges of the N. Y. A. C. at Travers Island.



BUSY BOSTON CLUB MEN

The Boston clubs are so active as to show that the Hub will become one of the most important automobile centers in the country. Both the Massachusetts Automobile Club and the Automobile Club of New England have events of importance to be decided in the near future.

On June 15 the last named will hold a series of races at the grounds of the Country Club, at Brookline. Next day it will hold a run and will invite all those who attend the races to join with it. The races will be for two-passenger electrics, electric racers, two-passenger steam vehicles, four-passenger stock steam vehicles, steam racing carriages, motor tricycles, gasoline two-passenger vehicles and quads weighing less than 1,000 pounds, gasoline vehicles between 1,000 and 2,000 pounds and gasolines over 2,000 pounds.

The racing committee decided on an important restriction on steam carriages of the stock pattern. The restriction will be so worded as to keep the steam pressure down to a reasonable limit, such as would obtain in usual road use of a carriage, say 200 pounds, and prevent the

MOTOR AGE CHICAGO TO BUFFALO TOUR.

use of special attachments calculated to give one vehicle a special and secret advantage over another.

Prizes are now being considered by the club, and some valuable and tasteful trophies will be offered.

On June 17 the Massachusetts A. C. will hold a run and will invite all owners of vehicles from far and near to take part therin. They will go to the Country Club and there a number of contests will occur.

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Owing to inclement weather only five members of the Indianapolis Club turned

out on the last run. They were Dr. H. Hicks, Robert Fishback, H. L. Hewitt, E. Hassler and C. G. Fisher. The last named pair went to Noblesville and made the return trip of 22 miles over bad roads in 1 hour and 29 minutes.

The Cleveland Automobile Club was to have held a race on Decoration Day but it was postponed on account of the condition of the roads, which had been made almost impassable by a week's rain.

It is said that Harry O. Koller, the Winton agent at Reading, Pa., has disposed of 18 machines.

MOTOR AGE CHICAGO TO BUFFALO TOUR

HERE will be a tour from Chicago to Buffalo during the first week in September under the direction of the Motor Age.

There will be tours from New York to Buffalo; Rochester to Buffalo; Boston to Buffalo; Pittsburg to Buffalo, and Detroit, Toledo, Indianapolis and Cleveland will join Chicago on the way to Buffalo. In short, all roads will lead to Buffalo toward the end of August and in the beginning of September.

The second week in the month will be one devoted to automobiles and automobileism. There will be the greatest congregation of automobiles ever seen in this country, perhaps, even, in the world. There will be every conceivable form of sport in which the automobile can be shown to advantage and every test which will throw light on the developments necessary to the perfect automobile.

But to return to the tour from Chicago. Arrangements are well under way. The present plan is to leave Chicago on the last day of August and travel about 65 or 70 miles a day, reaching Buffalo eight days after the start.

The route has not been definitely settled. There has been discussion of two, one by way of Cleveland and the other through Canada. So far as roads are concerned the latter would be ideal. But there are other things to consider. The tourists want the company of the Cleveland people, who have already promised to join the party. Then again they are willing and even anxious to create as much interest in the sport as possible, and this they would do to a far greater extent by taking the all-United States route than by going by way of the Dominion.

The party is assured of the finest kind

of time in any event. Courtesies have already been extended in Canada, notably at Woodstock. The freedom of the Buffalo Automobile Club has been extended to the party and the officers have promised to see to it that the visitors are well cared for.

Milwaukee will be asked to join the party. Toledo is already being taken care of. At Cleveland George Collister, president of the Cleveland Automobile & Supply Co., has the matter in hand, and at Detroit W. E. Metzgar will form a party. Carl Fisher, of Indianapolis, is quite enthusiastic. He has already called his friends together on the project and finds that they are inclined to look with favor on the Canadian proposition. "Sixty miles a day," he says, "is about right and a stop of about two hours for lunch will enable all to keep their machines in good shape. We should have an official photographer who would furnish a lot of pictures, which would be interesting for a long time to come."

The party will not only have an official photographer but a good many other interesting things as well. A competent machinist will accompany the party. Arrangements will be made in advance for the necessary supplies for both man and automobile. There will be at least one theater party and two smokers en route. There will be two or more races, and a hill-climbing test, for which suitable prizes will be offered. A number of factories will be visited on the way to give the tourists an opportunity to see automobiles in all the stages of construction.

The project has been taken up with enthusiasm. Definite information concerning the route will be forthcoming in a few days and will probably be found in the next issue of Motor Age.

NEWS OF THE MOTOR INDUSTRY

SOME MAKERS DISLIKE TESTS

New York, June 2.—The agitation in the National Association of Automobile Manufacturers in favor of the passage of a resolution against trade participation in automobile club road tests has not ceased and a resolution relating to the matter will be considered at a meeting of the executive committee in a few days.

THE TRADE IN CLEVELAND

Cleveland, O., June 3.—The automobile trade here gives evidence of great activity in every department of the industry. All factories are running full time, and in most cases are behind orders. The machinists' strike does not appear to have bothered the automobile manufacturers, owing, no doubt, to the fact that the 9 hour schedule has, in many cases, been in effect for a considerable time.

A talk with C. E. Weaver, of the Kelley Handle Bar Co. brought out the fact that this concern is doing a rushing business in burners and generators. Enlargements are being made in the factory to accommodate the increase of business. Many desirable improvements have been recently effected in the generator, and these have had the result of bringing orders from some of the leading manufacturers of steam vehicles. Mr. Weaver says that he has great confidence that the trade will continue brisk throughout the entire summer.

The Reliance Gauge Column Co., 65 E. Prospect street, is making experiments in the manufacture of the reliance safety water column, with a view to producing this article in aluminum bronze, thereby materially reducing the weight. Results, so far, have been favorable, and there is a probability that this combination of metals will be used exclusively on all products in the near future.

Owing to the great increase of the business of the Standard Welding Co. a new warehouse has been erected with floor space of 3,500 square feet. A considerable amount of new machinery is being installed. A marked increase in the export business of this concern in conjunc-

tion with the rapid growth of its home trade is keeping it hustling to avoid being "snowed under."

Mr. White, of the Baker Motor Vehicle Co., returned this morning from a trip east. He has just opened a new depot at 35 Thirty-fourth street, New York, and has placed B. D. Gray in charge. The intention is to have a charging plant installed, and also to use the depot as a depository for Baker vehicles, many of which are already in use in that city. A shipment of four rigs was sent out en route for Seattle while your correspondent was at the factory.

De Mooy Bros., 31 Granger street, is a recent addition to the ranks of the gasoline vehicle manufacturers. A two-cycle engine of about 3-horsepower is being used on the trial rig, and has given successful results, during the three months of practical road tests to which it has been subjected. The firm proposes to use about twice the power on future vehicles so as to overcome any possible difficulties of bad roads, etc., and be on the safe side. These people have been identified with marine motor construction for many years, and claim that they have the only successful two-cycle engine ever applied to automobile use.

DIPLOMAS FOR GRADUATES

Indianapolis, Ind., May 29.—To the Editor.—For the benefit of automobile dealers we wish to state that we have organized a club of 100 responsible young men and are teaching them to operate electric vehicles. We charge \$5 for the series of lessons and a diploma and after the scholar has become proficient we rent him an electric at \$5 for the afternoon or evening.

By choosing only first-class patrons we manage to make a good profit from the machines and at the same time demonstrate to hundreds the practical use and merit of the automobile.

We use a regular guarantee form and bond slip which holds the customer responsible for any and all kinds of accidents in which the machine is not at fault. We issue regular diplomas, which

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we hope to have recognized by all rental agencies in the country.

We should like to see other dealers adopt this plan and shall be glad to supply them any particulars they may desire.—Yours truly, Fisher Cycle & Automobile Co.

STOCK TO BE OFFERED

The National Automobile and Motor Co. has been incorporated under the laws of Maine, with the following officers: H. B. Black, Everett, Mass., president; C. H. Monroe, Searsport, Me., vice-president; L. Howe, Boston, secretary; W. E. Grinnell, Searsport, Me., treasurer; F. M. Harris, Boston, Mass., N. Doane, Manchester, N. H., C. H. Monroe, Searsport, Me., directors. Patents on an engine have been taken out in the United States, Canada, England, France, Russia, Austria, Italy, and Belgium. The stock of the company will be placed on sale with Abrams & Co., State street, Boston.

UPTON'S NEW FACTORY

The Upton Machine Co., 17 State street, New York, is receiving a large number of orders for its transmission gear. Mr. Murray informs this paper that it has been made lighter and the new model is more compact than the old. The high speed clutch is now fixed to the reversing end of the gear and by this change the length has been reduced from 13 3-16 to 7 11-16 inches. The principle of the new gear is the same. The work of this company is well known and while the gear is a little more expensive than some others, its wearing qualities and general utility commend it to the favor of those who buy gears to last. The company is working on a gasoline motor and business generally promises so well that it has plans in hand for a new factory which will cover two acres at Beverly, Mass., a noted place for skilled mechanics.

SAYS THEY CAN'T BE TAXED

The question of insisting on the taking out of licenses by owners of automobiles for use in the public service is disturbing the authorities of Washington. They are now engaged in a dispute with the officials of the Electric Vehicle Co., which operates about 100 vehicles, which, if the authorities so decide, will be subject to the proposed tax. The district assessor is pressing the commissioners for a decision. They have lately received a communication from the attorney of the electric company claiming that the company

cannot be included under the provisions of the license law until congress so authorizes, the present law containing no such provisions, and that because of defects in the personal tax law they cannot be taxed thereunder.

"At the same time," he continues, "the company is willing to agree, until adequate legislation is had, to pay a reasonable tax, and I am now authorized to enter into an arrangement for the payment of \$4 per vehicle for all vehicles used for public carriers, either at the railroad stations or hotels, the number of such vehicles for each year to be regulated by the average number of vehicles in use, which average may be taken, say, in January, when the use of such cabs is the greatest.

"If an arrangement on the basis of this suggestion can be entered into, which will be in lieu of license and personal tax, to continue until Congress has legislated upon the subject, I will be very glad to take the matter up and conclude it at once. If, however, it is the intention of the commissioners to proceed under the license or personal tax law, we would be unwilling, of course, to make the arrangement."

TYPE, PATTERN AND MODEL

There has always in the bicycle trade been more or less confusion in the use of the words type, pattern and model. They have been used as exact synonyms by many and many of those who have made distinctions—in catalogues, circular matter and trade papers—have made distinctions incorrectly. There is liable, if not positively, to be a repetition of this confusion in the automobile trade, and while in the ordinary lines of trade it may be of small import, the correct selection of these words is worth while by intelligent tradesmen and manufacturers.

A type represents a group or division of machines having a certain and common characteristic by which they are most prominently classified. There are in the automobile trade three types of vehicles—steam, electric and gasoline. Some inventors would add to the number. But these types of automobiles, no matter should their number be greater, cannot be correctly specified as models or patterns.

Pattern signifies to a certain extent and invariably sustains the meaning of a recognized form to be copied or imitated. In automobiles pattern truly refers to the design of the machine with reference to its purpose and should be used to signify the style of the carriage. Thus there are in automobiles such patterns as runabouts, phaetons, surreys, omnibuses,

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brakes, traps, broughams and victorias. To use such qualifying terms in connection with the words type and model is incorrect. They represent patterns which are common to all makers.

There is no dictionary definition of model which fits exactly any sense in which it can be used as a term relative to manufactured products. But model always sustains the impression of exactness and definite construction. In the automobile trade it properly refers to the individual maker's kinds of vehicles of certain patterns, just as in the bicycle trade it refers to different kinds of certain patterns, for instance Models A and B of women's pattern or men's pattern cycles. The cycle maker may produce two distinct ladies' machines. They are both of the same pattern, but owing to difference in construction, price or other factors, they are separate and distinct models and are enumerated as such in catalogues. In the automobile trade the maker may produce several patterns, as runabout, trap and surrey. He at the same time may produce two or more models of each pattern, as an 8-horsepower runabout and a 5-horsepower runabout.



THE CATALOGUE DEPARTMENT

Readers of this paper are notified that the publishers will be glad to forward, on request, the catalogues of any or all of its advertisers.

The object of the department is to place buyers and sellers in communication with each other with as little trouble as possible to each.

It is unnecessary to write a large number of letters to individual concerns.

Write one letter to this paper, enclosing stamps to cover postage and stating whose catalogues are required. They will be forwarded by return mail.

Makers are advised promptly of the names and addresses of applicants for their catalogues.



GOOD CLASS OF BUYERS

Cycle dealers and ex-dealers are deeply interested in the automobile business. It is in the line of progression and they are the logical distributers.

There are people in the trade who look with disdain on men who are or have been in the cycle business, but to such it may be said that not all of the men who have sold cycles and are still selling them are of the hair-brained class. They possess as sound qualifications as any class of men in any other business.

Perhaps this is best shown to be the case by the care with which they are

entering the automobile business. Those who have made money remember the time when the demand for cycles exceeded the supply during a part of the year. They remember that during the spring months, when the cycle makers were getting out the first batches of the new models, they were obliged to turn away prospective customers and were thereby deprived of much of the profit on which they had counted during the winter months.

That experience gave them wisdom so that they are not now willing to go to the expense of fitting stores for the reception of goods which they have no assurance of obtaining, or to represent manufacturers whose dignity is too great for the positions they occupy in the industry. And there are some such whose business, at the moment, exceeds their ability to deliver but who, in the course of time, will be glad to treat with those dealers whom they now despise. The cycle business furnished examples of the same experience. The supply will, one day, equal and probably largely exceed the demand. When that time comes the despised cycle dealer will be in a position to return the compliment.

Consideration will show that many of the best dealers in automobiles to-day are men who have handled, and in some cases still handle bicycles. It is easy to think of a number of them off-hand, as for example Harry Hearsey, of Indianapolis; W. E. Metzger, of Detroit; Geo. Collister, of Cleveland; R. D. Garden, of Philadelphia; James Linscott, of Boston; Mandery, of Rochester; Lew Black, of San Jose; Sidney Bowman, of New York; Frank Eveland, of Jersey City; M. L. Bridgeman, of Brooklyn; T. B. Varney, of San Francisco; Nolan & Tibbals, of San Diego; Neustadt, of St. Louis; and so on. Many of the makers, too, graduated from the cycle business. For example there are at least 20 such at the heads of departments of the American Bicycle Co.; Geo. H. Day, of the Electric Vehicle Co., and many of his associates in that company; L. S. Dow, A. C. Newby and others, of the National Automobile & Electric Co.; A. O. Very, of the Warwick company; Mr. Starkweather, of the Milwaukee company; Mr. Becker, of the Elmore; T. B. Jeffery, Robert Keating, C. H. Metz, A. H. Overman, E. C. Stearns, John R. Keim and Louis Hoffmann, to say nothing of the makers of tires and accessories, a large majority of whom have been in the cycle trade in one capacity or another.

The influence of the cycle trade is felt in other directions. Had there been no bicycles the automobile, if it had existed at all, would have been a clumsy contrivance, for be it remembered the cycle is responsible for greater advances in

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light structural work than any other thing manufactured in the last century.

Therefore let no man despise the cycle trade or the cycle dealer. The trade, as a trade, has seen better days but in its passage it has made better business men of those who have been associated with it. Many of them are destined to be big men in the automobile industry when those who now profess to despise them will have passed into the list of has-beens.



CAMDEN'S STAGE LINE

Philadelphia, June 3.—Camden, the somnolent town across the river Delaware, is to have an automobile coach line. B. W. Watson, of Boston, representing the Boston Automobile Transit Co., was in Camden last Wednesday in consultation with Secretary George W. Jessup, of the board of trade, on the subject of tolls on the Haddonfield pike. If the officials in charge of that highway should charge excessive rates the route to Haddonfield will be laid out over the White Horse pike.

Mr. Watson said that the vehicles which his company will use will seat 24 persons, being double decked and handsomely fitted up. The motors will be of the gasoline variety, and capable of propelling the vehicles at a 20-mile-an-hour rate. The fare for a trip from Camden to Haddonfield and return will be 10 cents, and from Camden to Merchantville, 5 cents. Each vehicle, says Mr. Watson, will cost the company \$3,500. He further states that he had entered into negotiations for the purchase of a plot of ground at the intersection of Haddon avenue and Walnut street, where the company proposes to erect an automobile factory. Stations will also be erected at Merchantville and Haddonfield for the use of passengers.



STAGE LINE IN OREGON

It is reported from Terry, Ore., that a Chicago man is there organizing an automobile stage line and that gasoline vehicles are to be used. The plan is to interest local capital for at least a portion of the outlay and leave the management in the hands of the local supporters. One machine, says the report, is on its way from Chicago, and it is understood that three more are to arrive soon. They are capable of carrying 20 passengers and an equal weight in freight and baggage. The first one will be put on the run through Eastern Multnomah, while one of the others will run to Oregon City and another toward St. Johns and Vancouver.

The fourth will be kept in reserve for emergencies or excursions. This plan was outlined by one of the stockholders, who stated that the machines cost about \$2,500 each and will be operated by gasoline.



UP-TO-DATE AUTO STATION

Plainfield, N. J., June 1.—There is now a first class automobile establishment in Plainfield, where steam, gasoline and electric automobiles can be purchased, stored, cleaned and repaired. The New Jersey Motor Carriage Co. has started business with \$30,000 capital and has fitted up a large store on Fourth street, near the railroad station where it has a fine line of machines of all sorts. The company has installed a complete individual charging station, capable of supplying current for the largest electric carriages. This station is an important link in the chain of stations to and from New York, Newark, the Oranges, Summit, Morristown and all the Northern New Jersey towns with the stations toward Philadelphia, and along the Jersey coast summer resorts.

In addition to the charging plant there is a large air compressor, where air is on tap at 150 lbs. pressure which will be found convenient for inflating tires, filling air tanks on steam machines and other purposes. Gasoline of any hydrometer test can be had on the premises.

The repair shop is in the hands of a skilled mechanic and there are ample facilities for supplying the wants of automobileists.



Among the visitors at the eastern office of the Age last week was James S. Holmes, Jr., general manager of the Remington Automobile & Motor Co., of Utica, N. Y. Mr. Holmes stated that he had just been to Newark, N. J., to complete the removal of some of the company's machinery to Utica, which will finish the gathering together of the outfit. The Utica chamber of commerce will erect an entirely new and modern plant and five acres of land have been set aside for this purpose.

The Century Motor Vehicle Co. writes that all of the men who were affected by the late strike have returned to work and that the factory is now running with the regular number of hands.

The certificate of incorporation of the Haverstraw Auto-Service Co. has been filed. The company was organized for the purpose of operating stage or omnibus routes on the highways in the town of Haverstraw, Rockland county. The

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capital stock is \$10,000. The subscribers to the stock are George P. Hilton, Hersch Roberts and Edward F. Hackett, of this city; Frank Roberts, of Coblesk, and Charles M. Hilton, of Haverstraw.

The H. A. Matthews Mfg. Co., Seymour, Conn., is one of the old concerns which seems to have embraced prosperity and held it. Manager Beecher recently placed in the factory a new outfit of punching presses and other machinery and the company will, it is said, have a good deal of automobile work to do as well as its regular bicycle parts business, which has always been large.

Charles E. Duryea, from nearly the head of the Automobile class, holds up his hand and rises to protest that this paper did not correctly state the number of men employed at Reading. It was stated that 25 were employed and Charles requests that 10 be added to that number. He also says that the company is at work on plans for 100 for the season.

A. M. Eames, principal member of the firm of A. M. Eames & Co., of South Framingham, Mass., who make, among other things, a great many wheels for automobile builders, has just celebrated the 35th anniversary of the establishment of his business. During all that time he has been constantly engaged in the same line of business at the same place.

Automobilists in Buffalo can find every facility and accommodation for their vehicles at the automobile storage, inspection and repair station, #83 North street, near the Circle, within three minutes' walk of the club rooms of the Buffalo Automobile Club, where machines can be cared for, stored, cleaned, inspected, repaired and recharged.

Gerald M. Fennell, of New York, a representative of the Tripler liquid air system, is in San Francisco in connection with the business. He says that one of the Vanderbilts has ordered an automobile, to be driven by a liquid air motor, that it will weigh only 600 pounds and will run at a cost of two-thirds of a cent per mile.

The stock of the New York Electric Vehicle & Transportation Co. has fallen greatly in value since the late announcement of an assessment. The par value of the shares is \$100 and the present price 75 cents. The assessment of 10 per cent is payable this week and is the third made, the others being for 5 per cent apiece.

Mr. Palmer, of the Pennsylvania Rubber Co., Erie, Pa., is busy getting out his new, solid automobile tire, and from the description, it would seem that he will strike the trade favorably with his non-puncturable article.

The Century Motor Vehicle Co., of Syracuse, is experimenting on a new gasoline wagon, which will be put on the market soon. It will have all the essential points of the electric and steam vehicles made by the same company, the bevel gear being one of the principal characteristics.

The Foster Automobile Co., of Rochester, recently shipped to John Wanamaker two stylish steam vehicles, one of them a four-seater. The company now occupies enlarged quarters in Rochester, but it is said will again move into a larger building in order to keep pace with orders.

An amendment to the articles of incorporation of the Toledo Automobile Co. will be made by the secretary of state changing the firm name to the Toledo Motor Carriage Co. The change of name is designed to prevent complications with the Toledo Automobile Co.

The Automobile Club of New England has decided to hold a race meet at Clyde Park, Brookline, Mass., on June 15. There will be races for all styles of automobiles, motor tricycles and bicycles. The race committee hopes to secure entries from Bridgeport and New York.

The Newark (O.) Auto Coach Co. has been incorporated. Its capital is \$10,000. This is the concern reference to which was made last week, whose vehicles are being made by the Bardsley & Hubbs Co.

The Baine Spring & Gear Co., of Buffalo, will make a machine similar to one recently constructed rudely by Rex Reinertsen, of Milwaukee, who will superintend its construction.

William H. Birdsall, of the Syracuse Automobile Co., is touring the northern part of New York state, placing agencies. He lately appointed A. S. Noonan, at Rome.

Another New Jersey concern, with headquarters at 185 Montgomery street, is the Rapid Locomotor Improvement Co., with capital of \$125,000.

The Gopher Motor Co. is a new concern at 185 Montgomery street, Jersey City. Its capital is \$50,000 and its object is to manufacture vehicles.

The manufacture of rubber goods will be undertaken by the Chicago Tire & Rubber Co., just incorporated with a capital of \$15,000.

J. C. Wood, of Cohoes, N. Y., has built a steam truck, weighing 1,600 pounds and with a carrying capacity of two tons.

Frank Dienhart and Edgar F. Smith, of Lafayette, Ind., have built a gasoline vehicle and tested it with success.

AUTOMOBILE PATENTS AND MECHANICAL TOPICS



HERE is a good commercial chance in the automobile trade for a speed indicator which will accurately indicate the number of miles per hour the vehicle to which it is attached is traveling. Speed indicators came and went in the bicycle trade, just as did many other novelties. They were never credited generally as being great successes—or else the need of them was slightly felt by cyclists.

It is probable that just now there is greater need of a speed indicator for an automobile than for a bicycle. In the first place the eye of the policeman is turned more vigilantly upon the chauffeur than upon the cyclist, the latter having become somewhat tired of continual scorching against city regulations and the former, because of the newness of his pastime, generally an enthusiast and a speed merchant. In the second place the automobilist invariably displays interest in the running of his machine to an extent which makes him a susceptible

cessories as speed indicators, etc. If a speed indicator can be produced which will be accurate and durable now is the time to spring it.

In one way it is easier to make a speed indicator for a motor vehicle than it has been to make them for bicycles, and in another way it is harder. The automobile allows the use of a heavier and more substantially made instrument than does the cycle, while it also necessitates the disposition of the dial or other indicator in a place within easy sight of the operator and distant from the transmission mechanism, wheel or whatever part of the vehicle from which it takes its driving power and speed. Another consideration rendering the problem of the making of the auto speed indicator difficult is that it must be so constructed that by adjustment it may be attached to any pattern or type of vehicle.



GALLAHER'S RUNNING GEARS

Design patent No. 34,577, dated May 28, 1901; to Edward B. Gallagher, of Philadelphia.

The frame design specified by this patent comprises side reaches connected by front and rear cross bars near but not at the extremities. The rear ends of the side bars are provided with independent T-shaped rear axle bearings. About midway of the side bars is a third cross bar, and directly in front of this cross bar the arms are curved inwardly and extend parallel to the front at a less distance apart than at the rear portion.

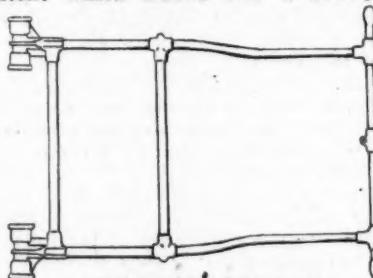


FOR DISHED WHEELS

Letters patent No. 674,859, dated May 28, 1901; to John Trier, of Chicago.

Mr. Trier's excuse for a patent is based on a desire to permit the adaptation of electric motors to a rear axle having inclined ends to compensate for the inclination of dished wheels, a consideration not common in automobile building in America, wheels being almost universally set upon level axles.

Two motors are used, one for each rear



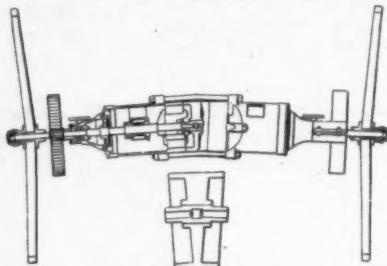
Gallagher's Running Gear

buyer before the merchant who has accessories of an attractive nature to sell. He will buy attachments for his automobile when the cyclist is satisfied with the absolute necessities.

It is seldom that this paper openly suggests new fields of invention or advises activity in the invention of novelties whose careers have ever, in the cycle and kindred trades, been fickle and may be repeated in the automobile trade. But now, when the motor trade is young and the interest of automobilists in their new pastime is highly pitched, is the time, if ever, to place on the market such ac-

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wheel, and these are so arranged that their casings abut against the respective end faces of a wedge-shaped, or doubly inclined, sleeve or cylindrical bracket placed on the lateral center of the running gear. The degree of inclination of the faces of the wedge-shaped bracket



Trier's Motor Frames

determines the degree of inclination of the motor casings and their motor shafts, and must accordingly be such that the motors will be in alignment with their respective wheel axle sections, which are inclined to afford the correct tilt to the wheels.

The wedge bracket is provided with a central hub through which extend journals for the inner ends of the motor shafts, which run independently of each other and whose outer ends are mounted in suitable brackets supported by the vehicle running gear and are furnished with pinions for engaging the wheel driving gears.

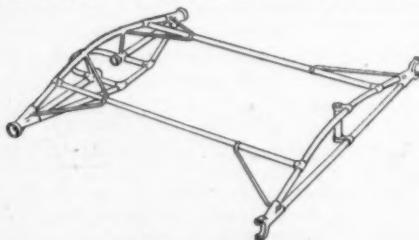
This patent is one of the many cases of invention in which the necessity or object hardly warrants the trouble to provide the means.



WELLS' RUNNING GEAR

Design patent No. 34,578, dated May 23, 1901; to Harry M. Wells, of Bridgeport, Conn.

This design is for a well known form of steam carriage running gear. The frame comprises straight side bars and front



Wells' Running Gear

and rear axle trusses, with necessary brace rods. The characteristic features of the design are found in the conformation of the rear axle truss or frame. This

is formed by two bows in a vertical and a horizontal plane, respectively, and each having a continuous arc. The two have a common chord interrupted by a U-shaped brace located in a horizontal plane and joining the arc of the horizontal bow, being for the obvious purpose of accommodating the differential casing and driving sprocket.



MAKING DURABLE TIRES

Letters patent No. 675,064, dated May 28, 1901; to Albert de Laski, of Weehawken, N. J.

The stated object of this invention is to provide a stronger tire for automobiles than the ordinary pneumatic, built up heavily of layers of canvas vulcanized between the inner tube and the outer tread surface of rubber, and one which will obviate overheating due to deflection of the rubber tread when running at high speed over slightly irregular road surfaces. Its chief peculiarity lies in the method of weaving the fabric.

The main fabric sheath is woven over a mandrel, or directly over the inner tube, according to the character of the tire, the latter method being preferred in event of the inner tube being replaced by a solid or cushion core of rubber.

In either case the warp threads run annularly around the tire and are of different sizes, those which lie at the outer or tread portion being heavier than those on the rim side and all threads being graduated in size from the heaviest to the lightest. In the accompanying illustration the size of the threads and the distance between them is exaggerated in order to make this difference in size more evident.

Two, or more, weft threads are woven spirally around the mandrel or inner tube and, on account of the warp threads on the tread being larger than those on the rim side, the fabric cylinder while being woven will assume a curvature corresponding to the circularity of the finished tire, the graduation in size of the warp threads having been determined to afford this result. The weft threads will also assume a radial disposition relative to the whole tire.

After the sufficient length of the fabric cylinder has been woven it is removed from the mandrel—if woven on one—and with the inner tube in place, the ends are spliced by cementing down the projecting weft threads of one end, pulling the woven portion of the other end over them and weaving the free weft threads of the second end into the woven portion of the first end.

A thin, curved metal plate is then laid upon the rim side of the fabric and

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around both it and the entire fabric casing are wound threads spirally in opposite directions. The number of layers of this spirally laid fabric is optional. The application of the rubber covering is the



De Laski's Tire

final operation. Before weaving, the threads of the main fabric may be coated with rubber solution if desired.

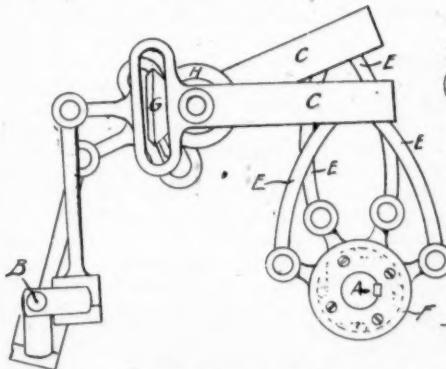


BRANCHER SPEED CHANGE

One Antoine Brancher, of Paris, France, is responsible for the variable speed oddity shown in the accompanying illustration.

The rear wheel axle is indicated by A, while B is a counter shaft at the rear of the running gear frame and driven by belts and pulleys from the motor, which, in Brancher's vehicle is located at the front of the machine.

Quartering crank and links drive the oscillating bars C, pivoted upon a cross shaft. The forward portions or arms of these oscillating bars are in the form of parallel side plates, between each pair of which is a long screw carrying a non-rotatable nut D. To each nut D is attached the upper end of two curved links E, fastened at the lower extremities to short cranks projecting from the outer rings F of roller clutches on the rear



ELEVATION AND PLAN OF THE BRANCHER SPEED CHANGE

axle A. There being one clutch for each link E there are thus four on the rear axle.

Oscillation of the bars C raises and lowers the upper ends of the links E, in

pairs, alternately, this movement resulting in the lower ends moving toward and away from each other. This in turn rotates the clutch rings F to drive the rear axle A, one clutch of each pair being operative on the down and the other upon the up stroke of the links E.

The bevel gears G and H are operatively connected with the controlling wheel or handle for the purpose of shifting the nuts D backward and forward on the oscillating bars C, by rotation of the feed screw. The disposition of these nuts relative to the bars C determines the speed of the vehicle by controlling the movement of the links E and their clutch cranks.



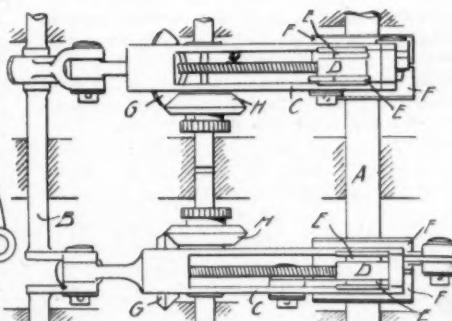
THE EDISON BATTERY

Dick Welles, of the Badger Brass Co., recently had the good fortune to visit Menlo Park with the members of a committee from the General Electric Co., to one of whom he is related and whose business there was to investigate the new Edison battery. As a result of the trip and what he learned at the time Welles said to an Age man on Tuesday:

"My impression is that the battery will be the means of revolutionizing the automobile industry. From the remarks of the gentlemen who investigated the matter I am satisfied that they believe that it is the greatest thing in electrical progress for many years past."

"Do you know whether there is any truth in a story to the effect that no batteries will be ready for the market for two or three years?"

"I can hardly see how that can be true. The factory has already been started and Edison said that he would have one of the



batteries in exhibition at Buffalo after July 15. My understanding is that the new factory will be able to supply batteries next spring.

"Edison will not permit the control of

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the battery to pass out of his hands. He has resolved that it shall be supplied to any one and every one alike and that if there is any money to be made out of it he will make some of it himself. He says that the only thing he has made any great amount of money out of for some time is the Edison phonograph. His determination not to part with the battery is regarded in the east as assurance that he is himself satisfied that he has one of the best things he has ever invented."

HARD RACE OF PLUCKY RACER

A race which put the staying powers of a Winton machine and the pluck of its operator to a severe test took place between Cleveland and Warren, O., last week. The principals in the affair were Albert S. Ingalls, superintendent of the Cleveland division of the Big Four railroad and Kenyon Painter, who is described as a retired manufacturer. The distance of the race was 220 miles and this the contestants were sure they could make inside of 24 hours with ease.

All might have been well but for the weather. That upset all calculations. The men started early in the morning. Soon after passing Ashtabula Painter found he had enough of the alleged sport and gave up. His competitor pushed on with admirable pluck. Ingalls was accompanied by Alfred Chisholm.

Braceville, a little village eight miles west of Warren, was, by the terms of the agreement, to be the turning place, and the point from which the tedious return to Cleveland was to be begun. Beyond Warren, in a desolate part of the road, the automobile stuck fast. No efforts availed to release the machine. Ingalls, however, had determined to complete the first stage of the race that evening. He walked to the nearest farm house and hired a team of farm horses and a boy to drag the automobile to Braceville and back to Warren, thus at least complying with the terms of the race.

Slowly, in the inky darkness, through the mud and rain, the horses, the farm boy, the automobile and the two enthusiasts wended their way to Braceville and thence back to Warren, where the feather beds of the hospitable tavern were the welcomest rest ever afforded to weary bones.

Next morning, after a few repairs to the machine, Ingalls and Chisholm left Warren on their return towards Ashtabula. They had agreed at Warren to telephone to their friends in Cleveland when they reached Orwell, a place about half way between Warren and Ashtabula. Up to a late hour that night no word had been received from the wanderers and

their whereabouts was uncertain. They had expected to push on to some place between Ashtabula and Painesville to spend the night and return to Cleveland in the morning.

Ingalls finally landed in Cleveland, an over-worked victor, having been on the road two days and fifteen hours.



FOOL EXPERIENCES

James Levy, riding a Cleveland motor cycle, started for Milwaukee one Sunday morning in an endeavor to defeat Joseph Gunther, who operated a four-wheeled gasoline machine. Aside from taking the wrong road, he had another experience which puzzled him for a while. Despite all he could do, his engine seemed determined to run dry. He stopped repeatedly to put oil into the crank box, but three or four miles seemed to be the limit of the possibilities before the piston tightened up again. It happened, at last, that a country boy stood watching him as he oiled and fumed, and called his attention to the fact that the oil was running out of the crank chamber as fast as he poured it in. Of course the explanation was simple. The plug in the bottom of the chamber had worked loose and fallen out. A wooden plug was used, and all went well thereafter.

The danger of fast driving on slippery roads was well illustrated by the experience of two members of the Columbus Club a few days ago. Hurrying home in a rainstorm, they came to a hill, at the bottom of which they met a buggy. Instead of easing up to allow it to pass, they turned to the roadside just as they came to a deep ravine, which, happily, was shielded by a stone wall of great thickness. The rear wheels slipped in the mud and threw the machine against the wall with such force as to drive a part of it out of place. People who saw the affair say that nothing but the wall and a tree which supported it saved the pair from being thrown into the ravine, which assuredly meant a fatality. The sliding of the rear wheels has already been responsible for many accidents, and too great care cannot be exercised in slippery places. Shaw's only accident on his New York to Chicago trip was due to the skidding of the rear wheels of his machine.



Do you want to know where to buy anything in the cycle or automobile line? The Motor Age will be glad to place you in communication with the right people if you will make your wants known.

THE CONSTRUCTION OF A MOTOR QUADRICYCLE



BY L. ELLIOTT BROOKES.

Part One.

IN these articles the writer endeavors to briefly describe and illustrate a motor quadricycle which is strictly American in design and construction, and which, furthermore, has none of the objectionable features common to foreign machines of this type. The machine also has several novel features which will commend it to the users of this kind of self-propelled vehicle.



It has two forward speeds, with the brake, motor clutch, with automatic release, and differential gear all running in oil in one casing, which forms a part of the rear axle. By means of this construction if it is found necessary to propel the machine by pedals for any distance, as in the crowded streets of the business portion of a large city, the motor can be thrown entirely out of gear, and the machine propelled with scarcely any effort on the part of the operator—a startling contrast to the condition, now common, of having, aside from propelling the vehicle with two persons, to also act as the motive power to operate a small motor running at a speed of from 1,000 to 1,500 revolutions per minute and working from the wrong end of a train of gears. To say the least, this is not pleasant, especially if the outfit should for some unknown reason be stalled in going up a long grade.

A further advantage of the machine presented is that if in making a stop it is found necessary to apply the brake suddenly, the motor is thrown entirely out of gear by the action of the brake lever, and no stresses are induced in the gearing of the machine by this operation, as is the case when the brake is applied with the motor in gear, which is usual in nearly all present construction.

This enables a very quick stop to be made while going at a high rate of speed, and eliminates all danger of stripping the gears or straining any part of the frame or running gear.

This motor quadricycle is also readily convertible into a tricycle, by removing the two reach rods, the front steering wheel axle, connecting forks, etc., and replacing with an ordinary single fork and front wheel, which is the work of but a few moments. Or the front seat may be detached by removing six bolts, and the machine is then ready for use for a single person, without having a "left off" or "something missing" appearance, as is the case with many machines with detachable front seat. A parcel or luggage carrier can be substituted for the front seat, if desired, and then the machine can be used by a single person for touring purposes.

An entirely new form of carbureter is shown in connection with the motor used on this machine. It will work in any kind of weather with almost any grade or kind of gasoline, and requires neither float nor heater pipe from the exhaust to vaporise the gasoline. It will not clog or refuse to work in damp or foggy weather, nor does it need boiling water to induce it to work in cold weather, as is the case with ordinary carbureters now in use. It furnishes a cool, dry gas and is always ready for use.



Fig. 1 is a side elevation of the complete machine, with the near wheels and a portion of the axles and front seat removed to better show the construction of the vehicle.

The battery switch is located upon the left hand side of the handle bar, next to the grip; the brake and motor clutch release lever is on the right hand side of the handle bar and below the same; the ignition controlling and compression release cock levers are shown next to the steering head of the frame, while the other two small levers control the gasoline vapor and air admission supply.

The device for throwing the motor entirely out of gear is shown attached to the lower reach tube of the main frame. Foot rests are provided, as shown, attached to the side reach rods, connecting

CONSTRUCTION OF A MOTOR QUAD.

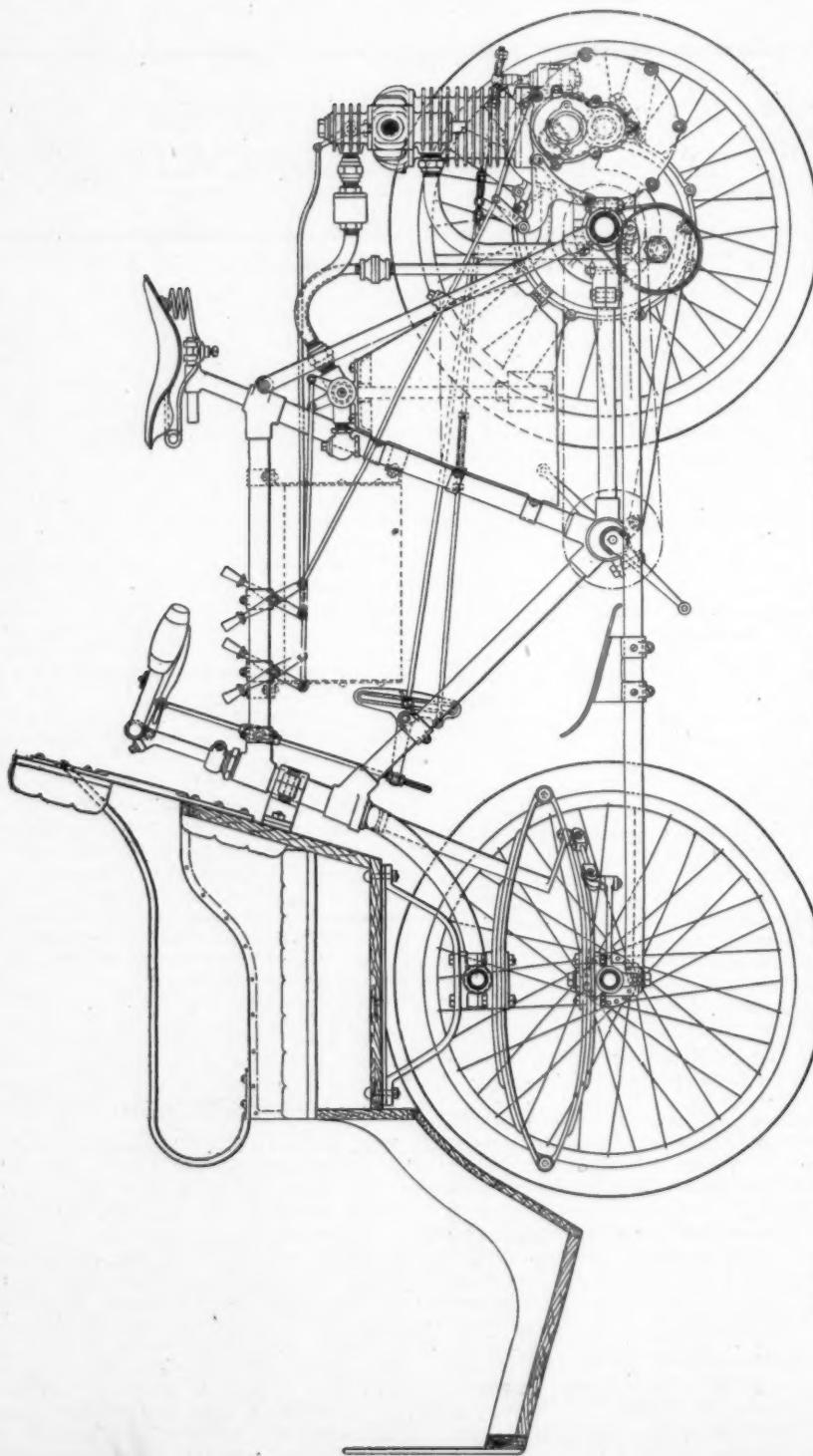


FIG. 1—SIDE ELEVATION OF COMPLETE QUADRICYCLE.

CONSTRUCTION OF A MOTOR QUAD.

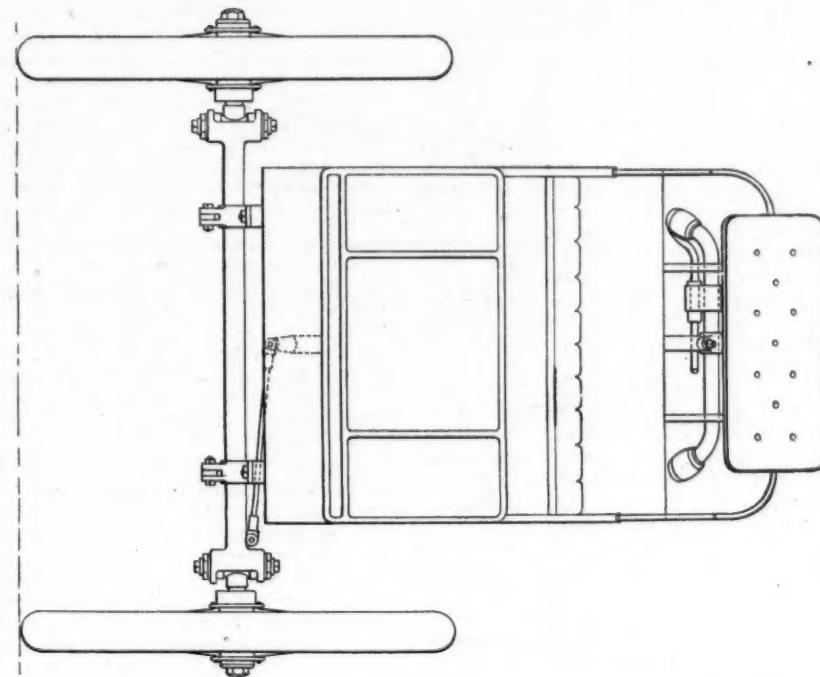


FIG. 2—FRONT ELEVATION OF COMPLETE QUADRICYCLE.

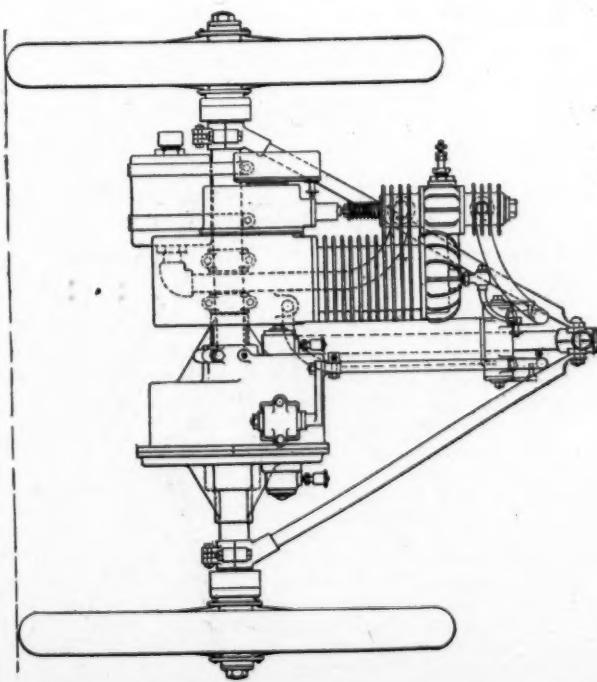


FIG. 3-REAR ELEVATION OF COMPLETE QUADRICYCLE.

CONSTRUCTION OF A MOTOR QUAD.

the front and rear axles. The pedal crank shaft driving sprocket operates the rear or driving wheels of the machine through the medium of a very simple flying pawl and ratchet device, which, when the motor is in operation, is automatically thrown out of gear and the pedals and chain remain stationary, being only used to start the machine and to propel it at a very slow speed with the motor thrown out of gear.

A box for tools, oil cans, etc., is provided under the cushion of the front seat. The batteries and induction coil are located in the case shown in dotted outline, just below the upper reach tube of the main frame.

Fig. 2 is a front elevation of the machine showing the front or lady's seat, steering wheels, front axle, etc.

Fig. 3 is a rear view, showing gear case, motor, muffler, rear wheels, axle, etc.

The wheels should be 26 inches in diameter, with $2\frac{1}{2}$ -inch pneumatic tires.

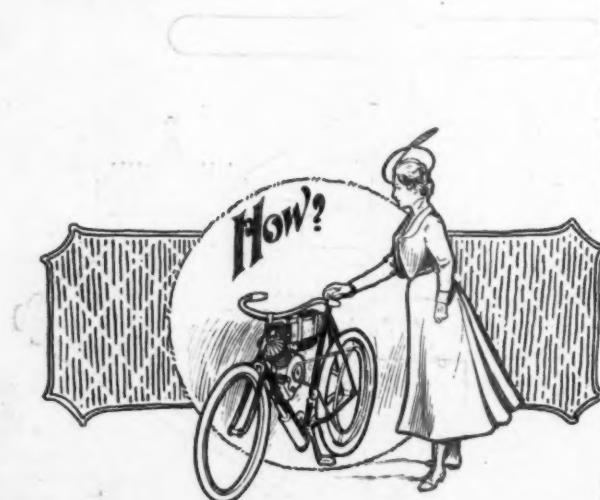
The motor to be used upon this machine should be of the air-cooled type, and have radiating ribs or flanges upon the cylinder, cylinder head and admission and exhaust valve chambers. It should be not less than of 3-inch bore, with from 3 to $3\frac{1}{2}$ -inch stroke, and of about $2\frac{1}{4}$ -brake-horsepower at 1,200 revolutions per minute. This is not any too much power if it is desired to propel the ma-

chine on a level road at a speed of from 20 to 25 miles per hour, when in gear on the fast speed.

Parts, wherever possible, are taken from standard stock and can be purchased from almost any supply house. These parts include handle bar, saddle, seat post, frame fittings, wheels, tires, hubs, pipe fittings, sparking plugs, batteries, bolts and nuts, etc.

With the exception of the gear case, the largest part of the motor—the crank chamber—can be finished in a 12-inch lathe. The gear case requires at least an 18-inch lathe to turn it, but if this is not handy, the case can be readily machined for the builder by an outside machine shop having a lathe of the required capacity.

It is not the intention in these articles to describe minutely every detail in the construction of the quad, but to give a general outline of the construction with especial reference to the factors with which the machinist and cycle builder are the less familiar. Most of the machine itself is built in a manner similar to bicycle construction, and in this case a careful study of the drawings is all that is necessary to set the builder right. All of the parts to be made or finished in the shop, with the possible exception of the gear case, can be readily produced in any small machine or bicycle shop.



CURRENT AFFAIRS IN THE CYCLE TRADE

AFFIDAVIT IN STEARNS CASE

Joseph P. Divine, the American Bicycle Co.'s Stearns factory manager, has made a wonderful record in his present position and is said to be one of the best factory managers in the country. Divine, who was formerly with E. C. Stearns, has taken a leading part in the fight of the American Bicycle Co. against the Bretz Mfg. Co., which concern, it is alleged, is backed by E. C. Stearns and H. E. Maslin. They say the affidavit of Divine bristles with war and that when it makes its appearance it will create a sensation.

DUNLOP TO REORGANIZE

A reconstruction of the Dunlop Tire Co., which has controlled the British tire trade with a grip of iron, is imminent. It has been found impossible to make the business pay on the present inflated capital basis and it is therefore proposed to cut the amount of the shares in two or thereabout. The patents which have enabled the company to dominate the industry will expire in the near future, at which time, if there be enough business left in the cycle trade to warrant it, the other companies will give the monopoly a hard rub. Many men have been made rich by the operations of the concern which, as will doubtless be remembered, was the first of Hooley's over-capitalized schemes. The present capital is \$25,000,000.

ANOTHER FACTORY GONE

The factory of the Indiana Novelty Co., at Plymouth, Ind., which formerly manufactured wood rims and was bought out by the American Bicycle Co., has been sold at a low figure. The price, including the real estate and machinery, was \$10,010. The wood working machinery is to be shipped at once to the Lobdell rim factory and the remainder to two Chicago houses which have no connection with the cycle trade. The buyers announced that unless the buildings and fixtures, such as the boilers, were bought at once by someone in Plymouth, the

whole would be turned over to the Chicago House Wrecking Co.

The history of the old concern is interesting, but by no means pleasant to contemplate. The factory was formerly devoted to the manufacture of wood novelties. Then, when the wood rim business commenced to grow, it was devoted to that industry under the ownership of George Marble and S. Thayer. It was for a time the largest producer of wood rims in the country, but got into debt and, it is supposed, was kept going by the assistance of the Gormully & Jeffery Co. It was sold to the A. B. C. in due course and the latter made an agreement with the principals to keep them in its employ for five years at a salary of \$5,000 a year apiece. It failed to do so, however, and there is a suit pending in consequence, unless it has been settled privately by the parties interested.

BUSINESS WASHED OUT

Syracuse, N. Y., June 2.—The bicycle business has been practically dead for two weeks. There were only five days in it that it did not rain. The indications are that June will bring better weather. It has been impossible to get at the cycle paths and this has been an obstacle to those who are accustomed to take trips into the country. The season started with a rush and the dealers thought it would be a record breaker, and it probably would have been had it not been for the rain. Another thing that has injured the business is the tendency of the people to save money to go to the Pan-American. The encouraging feature of the business is the demand for high grades.

A familiar sight around the streets during the past week, between the drops of rain, was Arthur Benjamin, on a motor bicycle which he has just received from the E. R. Thomas Motor Co. Benjamin intends to carry a line of motor bicycles and thinks they will have a large sale in Syracuse and vicinity.

One of the Syracuse visitors last week was D. S. Troxel, of the Troxel Mfg.

CYCLE TRADE HAPPENINGS.

Co., maker of bicycle and motor cycle saddles. Mr. Troxell's complaint was the same as that heard on all sides, the bad weather. He says that if the weather improves, business will be excellent. The company has already sold more saddles this year than last.

The Brown-Lipe Gear Co., of this city, has just filled an order for Felix Fournier & Knopf, of Paris, France, for 400 Bi-gears. The most of the Bi-gears used are shipped abroad, where they are quite popular. In France especially they seem to have caught on and are in general use. The Brown-Lipe Gear Co. is making two new change gears for automobiles. The company also manufactures differential gears for automobiles. A change gear is being made for motor bicycles. The company also manufactures transmission gears for automobiles, selling to Syracuse and foreign firms.



SPALDING IN NEW YORK

Albert G. Spalding, ex-president of the one-time Cycle Board of Trade, organizer of the American Bicycle Co., sporting goods and baseball magnate, and owner of a fine ranch in California, was seen in New York last week in company with local financiers. Mr. Spalding has been for years a favored personage in the bicycle and sporting goods industry and many regret that he is not more directly connected with the present manufacturing organizations. Mr. Spalding appears, since his several months ranch vacation, quite able to bat the ball vigorously a few years more.



WHERE LABOR IS CHEAP

Cycle repairing is in India quite a feature of the cycle trade. The necessary tools, including a supply of nuts, washers, screws, and other small parts, are usually obtained from the nearest ironmonger, or are imported from England. The repairs are carried out by native workmen, under the guidance of an Eurasian or Anglo-Indian manager, or with the help of a foreman.

Occasionally the knowledge and resources of the latter in connection with brazing, wheel building, and lathe work, is such that he is able to turn out a very creditable machine, and which costs less to construct than the price of its English contemporary. For, although the parts are not particularly cheap, either to make or buy, native and Eurasian labor is distinctly inexpensive. The Hindu or Mahomedan mechanic will be paid from \$2 to \$3.50 a month, according to his capacity, and the Eurasian will rejoice in

from \$9 to \$12 for a similar period. He may even reach the Parnassian height of a hundred rupees (about \$29). In the latter case he will be styled manager. Should the position in question be held by an imported European, his salary will be anything between \$35 and \$60 a month. In the event of the latter being in charge of the sale room also, his income, with commissions, equal some four hundred rupees (\$116) a month.



POPE'S PRINTERS IN PARLORS

A committee from the Hartford Typographical Union conferred with Colonel Pope recently regarding the printers at work in the printing department of the company. Nothing was decided upon, but the men did not quit work. The printing department is located in the quarters formerly used by the advertising men and the furnishings are of quartered oak. It is the most palatial printing office in the country. From 15 to 40 men are employed there according to the amount of work to be done. Some very fine work is turned out, including colored catalogue work. The printers in the department have been agitating a nine-hour day for some time.



MOTOR CYCLE LESSONS

The motor bicycle can be made a source of considerable profit by taking advantage of the public interest and curiosity in this type of vehicle. Appreciating this fact a New York dealer is advertising in the local newspapers "motor cycling taught." He states that he has engaged the services of expert motor cyclists who will give lessons in operating motor bicycles at \$1 per lesson, the amount being refunded to those who purchase a machine. A number of people have taken advantage of this opportunity to learn to operate a gasoline motor and the idea has already resulted in several sales.



A LIMITED GUARANTEE

M. H. Benjamin, brother of the secretary and treasurer of the Rochester Cycle Co., is a smart young man but he did something the other day that caused a shadow to fall on his usual alertness. Wishing to draw trade he placed in the show window an attractive looking bicycle and a card which read: "This is a bargain at \$18, guaranteed while they last." A rival dealer down the street went him one better with the following: "This \$18 wheel is guaranteed all the

CYCLE TRADE HAPPENINGS.

time." But Benjamin stuck to his card because it attracted attention through the "Irish bull."



OF THE EFFECTIVE KIND

There recently appeared in this paper a reproduction of one of the advertisements used in the local papers of Port-

THREE IN ONE A COMBINATION HARD TO BEAT

Rambler Chainless Cushion-Frame Light Roadster \$60.00
REGULAR ROADSTERS \$55.00
SHELBY IDEALS \$25, \$22, \$20.



200 Second-hand Bicycles from \$5.00, Up—Old wheels taken in trade—New or Second-hand wheels, cash or on small installments. Call and See us.

FRED. T. MERRILL CYCLE CO.
P. S.—We don't give a discount for Cash—
We don't need to cut prices.

A Merrill Advertisement.

land, Ore., by Fred T. Merrill, the well known Pacific coast dealer. Here is another and later. Like the previous ad it is one of those contributed to Merrill's ad-making competition. Its originality is commendable because it is effective. Some advertisement writers aim only at originality and forget that the whole duty of an advertisement is not to catch the eye. The eye having been brought to the announcement the mind must be interested and the judgment prevailed upon. A Chicago ad. writer told the entire story by saying that advertising meant attraction, attention, conviction, cash.



VAN SICKLEN NEEDS LESSONS

Jesse Eccleston, manager of the William Hengerer bicycle manufacturing plant at Buffalo, is well satisfied with the business done and it is said the factory has been running early and late in

order to meet the demand. The Pierce people, William Hengerer and the Globe company seem to have had the bulk of the Buffalo business, although some of the agencies for other machines have had a fair share. Mr. Eccleston and H. M. Angle are the Buffalo agents for the Stearns Steam Carriage Co.

N. H. VanSicklen, of newspaper and racing fame, who is in charge of the American Steel and Wire Co.'s Pan-American exhibit, thinks he is about as fit today as when he used to win medals as an amateur and his appearance bears out the belief that Van is as hard as nails these days. He recently accepted an invitation from Mr. Eccleston to take a spin, which offer he accepted, but it had been so long since he had ridden that he succeeded in falling all over the machine, which was brought back to town in a dilapidated condition.



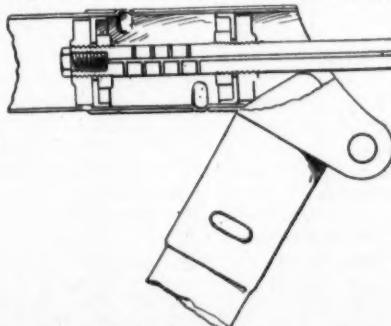
A SAD ENDING

On Decoration day in Chicago there was enacted a sad sequel to the career of a man who although unknown to the cycle trade outside of the trade papers contributed considerably to the trade's knowledge of European affairs by translating French correspondence and news articles for the American cycling press. He was A. C. Knapp, a Chicago real estate agent, at one time wealthy, lately poor and finally, after the recent stock flurry, bankrupt. Decoration day he committed suicide by taking poison. To his credit it can be said that never until the announcement of his sudden death did his acquaintances know of his impecunious condition. He had worked hard to regain his ebbing fortune and had failed.



ANOTHER BRAZELESS SCHEME

A hydraulically made bicycle frame joint being introduced by a Manchester (En-



Birtwhistle's Hydraulic Joint.

gland) syndicate, brings to mind one Hooley of Great Britain. In fact so

CYCLE TRADE HAPPENINGS.

deeply did the wonderful Terah sink his name into the English cycle history that almost every mention of hydraulic frame joints brings the shudder of remembrance of the time when with hydraulic joints and hydraulic stocks of various varieties Mr. Hooley cut a hydraulic swath around himself so wide that he could not swim ashore.

Returning to the new joint, which is called the Birthwhistle out of respect to its inventor, it is simple and not exactly original in its principal feature—that of expanding the frame tube within the connecting lug.

In the wall of the lug are cut several circumferential slots and after the tube has been inserted a pipe fitted with two facing cup leathers, backed by heavy nuts, is placed within the joint. The pipe has a small bore and heavy wall as it is intended to force the liquid through it at a pressure of seven tons to the square inch. Cross holes leading from the central hole of the pipe afford an outlet for the liquid into the joint. The pressure forces the metal of the frame tube into the slots in the lug, but the retaining form around the latter prevents the metal from protruding above the outer surface of the lug. The tube wall is also expanded to fit tightly within the wall. It is of course necessary that the connecting lugs be formed so that the pipe and washers may be readily thrust into the joint, and, after the operation, removed.



POPE WORKMEN RETURN

The employers of Hartford have carried their point and have settled with the striking workmen without recognizing their union. It will be remembered that the Pope factory of the American Bicycle Co., Pratt & Whitney and others held a meeting and decided that there would be no objection to granting the demands of the men for a decrease of working hours at the same wages, but that they would positively refuse to accede to the demands of a formal agreement with the union. On Decoration day the men held a meeting and unanimously agreed to an acceptance of the employers' terms. The strike threw 1,400 men out of work, but the conservative New England spirit prevented hair-splitting on the part of the men and averted a long, unprofitable struggle.



Walter E. Masterson, formerly the cycling luminary of the New York Sun, has an article in the Woman's Home Companion, June number, on the benefits and beauties of cycling. This journal is giv-

ing the Ladies' Home Journal a run for its money. One of the owners is the well-known pioneer and L. A. W. president, T. J. Kirkpatrick of the Kirkpatrick Saddle Co. Mr. Masterson's article shines out among a lot of other good things. Walter was always lady-like and a good fellow and can be depended upon to interest the women.

John G. Moomy, of Erie, Pa., thinks he has beaten the Tillinghast patent. He has just been granted, without reference, a patent for an inner tube tire which does away with vulcanizing the tube, which fact, he says, will steer him clear of infringement. The Moomy patent is on an ordinary sealed inner tube without vulcanized ends. The application was made and the patent granted inside of a month. The Erie man is trying to form a company and a New Yorker of financial prominence is said to be interested.

Theodore F. Merveles, of the American Bicycle Co., is doing a lot of traveling among the agents of the company in order to see what they are doing and pick out the weak points. President Coleman has also taken a run around the circle.

Don B. Smith, one of the stockholders of the Holley Bicycle Co., received a telephone message from the Bradford (Pa.) Board of Trade last week, that the city had decided to give the company land and a building and equip it with power.

The Rochester Cycle Mfg. Co. recently secured a contract to build engines for the Foster Automobile Co. of the same city. The former superintendent of the Shipman Engine Co. is with the first named concern.

Fred J. Mosedale, of the Crown Electrical Mfg. Co., St. Charles, Ill., manufacturer of cycle chains, sailed for England on Saturday last to call on a number of foreign customers of the company.

The Boston Woven Hose & Rubber Co., which formerly made the famous Vim tires, is prospering. It has just declared a dividend of \$3 per share, payable on June 15.

L. A. Frayer and W. J. Miller, of the Columbus Machine Co., of Columbus, O., are the latest builders of a motor bicycle. Their first machine was completed recently.

W. D. Gash, of the Waltham Mfg. Co., Waltham, Mass., was a visitor at the eastern office of the Age last week.

I. E. Tiffany is erecting a new building at Hallsted, N. Y., which will be used as a cycle store and salesroom.

MAIL ORDER RUMINATIONS

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TEN DAYS' trial seems at present to be the leading hoax of the mail order bicycle houses. The cycle dealer can take advantage of this offer by advising any of his customers who is inclined mail-orderward to send for the machine, give it a trial and then bring it to the cycle store for comparison with really good bicycles. It is well to direct the customer to try the bicycle first. Comparison may not then be necessary.



A good local paper, poster, dodger or window advertisement for the dealer is as follows:

"Our repair shop is mainly patronized by purchasers of mail order bicycles. Our own machines never come back unless damaged through outright carelessness or in a smash-up of ice-wagon forcefulness."



A mail order house can sell cheap bicycles to Tom, Dick and Harry with reasonable security that the worst consequence will be the return of from \$10.98 to \$13.50 per case of dissatisfaction. Tom, Dick and Harry, however, are not taking \$100 and \$200 mail order chances every day and should any one of them be induced so to do and the chance prove like many other catalogue bicycle chances, Mr. Mail Order will not finish with a wide margin of profit.



There is in all Chicago no man who, from a disinterested standpoint, has learned the ins and outs and other features of the mail order bicycle business more thoroughly than a certain expressman, who, for convenience, may be labeled Jinks.

Jinks does business with both of the two leading Chicago houses. He hauls new bicycles out and 10-day-tried ones back. Of a morning when making a delivery or a collection at one house he will inform some illuminary of the institution that there were 66 machines returned to the Blink concern the day previous. Then on his next trip to the house of Blink he will state:

"Hauled 67 dead ones back to Blank's yesterday."

Jinks also carries useful information concerning number of shipments; to what territory goods are sent; names of foreign buyers; general happenings; conversations overheard, and novel schemes concocted by principals.

At each place he is considered as a trusty slave with a mind bent in but one direction. At each place he is looked upon as a desirable adjunct to the mail order business. At each place he is an outspoken foe to the competitor. To a third party he appears to be somewhat of a humorist when he relates how he makes competition keener in the souls of mail order men. When Jinks was told that he was a fraud he said:

"Well, there are others—in the mail order business."



It is rumored, and the rumor is plausible, that one or two mail order concerns will shortly add motor bicycles to their lines. The dealer may be thankful that motor bicycles are at present so scarce and sold at such prices that the catalogue house can afford little inducement to the purchaser other than that made by the dealer. In fact, it is doubtful if the cut-price jobber can deal as profitably in such machines as can the local dealer. They are above his class. The worst he can do, which will be bad enough, is to offer for sale motor outfits ready for attachment to any old bicycle. He may cut into the sale of complete motor bicycles and reliable motor outfits in this manner, but, unless he is so exceedingly choice in the selection of his goods that he will have no advantage ground to stand upon, he will find returned goods so numerous and expensive that he will wish he had never heard the sound of a gasoline vapor explosion.



The Bicycling World, after many years of usefulness in other directions, has tackled the mail order business might and main. The estimable eastern paper should be commended. Any man, paper, institution or power which seeks to establish fair competition in the place of unfair and often questionable methods of cutting into the profits of legitimate trade, should be commended.

In a trade paper exposes of the bicycle mail order business and the publication of facts showing the injurious effect of such business do not stab directly at the trade in question, for the trade papers reach the dealers and initiated cyclists most largely and these are fully awake creating satisfaction, holding trade at a distance from mail order concerns. These articles are effective indirectly, however, in that they keep constantly in the mind

RETAIL TRADE MISCELLANY.

of the dealer the urgent need of maintaining fair prices, selling good machines, creating satisfactory, holding trade, dissipating local desire to purchase mail order machines and establishing a firm, legitimate business.

The dealer can do more to prevent the influx of shoddy machines into his territory than can anyone else. He cannot do so unless his own business methods are above reproach. The dealer who gives value received at every sale and refuses to place the limit of value below the safe-

ty point can sustain a profitable trade in the face of all the catalogue houses in the country.

Seated in a street car recently the writer overheard partially a conversation between two gentlemen who were evidently co-operatives of a mail order business. Said one to the other in describing a new plan of campaign:

"It's a new kind of coupon catch in which each sucker gets square by getting a hold of another."

RETAIL TRADE MISCELLANY

L. Durringer, of Bellefontaine, O., has sold out his bicycle store.

W. D. Stallcup, of Worthington, Ind., has sold out his cycle business.

Geo. Grogman, Piqua, Ks., has sold out his business. He carried bicycles and hardware.

Fire completely destroyed the store of the Tenk Hardware Co., Quincy, Ill. The firm sold bicycles.

The cycle repair shop of Bert Goodsell, of Ogden, Utah, was lately damaged by fire to the extent of \$400.

Wm. J. Bishop, machinist and bicycle dealer, of Philadelphia, Pa., has filed an involuntary petition in bankruptcy.

The bicycle store of Oscar Lear, Columbus, O., was visited by fire last week. The damage was covered by insurance.

The Dawley Hardware & Furniture Co., of Rocky Ford, Col., was damaged by fire. The firm carried a side line of bicycles.

Himes & Rosenwinkle, bicycle dealers, have dissolved partnership. Their business was located at Fort Wayne, Ind.

Frank Jordan, of the Palestine Hardware Co., is dead. The concern handles hardware and bicycles in Palestine, Tex.

H. W. Sidenbender, whose bicycle repair shop in Delphi, Ind., was destroyed by fire last week, has gone out of business.

Glens Falls, N. Y.—A branch of the Sexton cycle business has been opened in the Wakeman building. S. W. Mott is in charge.

The cycle dealers of New Haven, Conn., gave a number of races on Decoration day and to prevent any one obtaining an advantage over the others they adopt-

ed the novel plan of printing separate entry blanks for each race and dividing them so that only one blank could be obtained at each store.

Merrill, Wis.—B. W. Hicks, of Merrillan, has located here and has rented the store at 507 West Main street for a cycle store and repair shop.

George E. Shaw, who was formerly in the cycle trade in New York, has just failed in the auction business at 257 Fifth avenue. The assignee is I. H. Dreyfuss, who acted in a similar capacity at the time of the failure of the Stockton company.

The following changes of ownership of firms who are interested in the bicycle business were recorded during the past week: Hooper Bros. to Hooper & Morgan, Durant, Miss.; R. W. Lloyd to E. L. Moen, Lake Mills, Ia.; Scott & Skalak to Skalak & Son, Humboldt, Neb.; C. F. Bates to A. H. Jenks, Dansville, N. Y.; H. N. Anderson to Louis F. Holt, Rosendale, Mo.

J. B. Kaercher & Co., of Pittsburg, are now in their twelfth year as Rambler agents. Mr. Kaercher recently complained that he could not get cushion-framed Ramblers fast enough and stated that the demand and the supply in other respects were satisfactory. Mr. Kaercher is one of the solid kind of agents and many a battle he had with the old G. & J. concern over construction in the old days. He is now much interested in the gasoline carriage that T. B. Jeffery is to bring out and it is quite possible that he will become the Pittsburg agent. In the meantime he may be induced to take on some other carriage, for Pittsburg is certainly a good automobile town, judging by the success of Seely & Bunker.

BUDGET OF BICYCLE INVENTIONS

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WHEN THE back pedaling brake first became popular it rose most prominently in England in the form of a free wheel clutch combined with a tire or rim brake, while in the United States it almost immediately became generally recognized as a complete rear hub attachment. With the exception of the original Morrow and the Doremus, there were practically no back pedaling tire brakes on the American market prior to the general introduction of hub coaster brakes.

The rapid rise of the American hub brake resulted in the introduction of this form of brake in England and in the English production of such devices. American construction became, in a measure, popular in England. Now with the hub brake an established factor in the American trade the English idea of coaster hub and tire brake is getting a foot hold here and English construction will find a reflection in some American brake devices for which patents are now frequently granted.

Probably, for a short time at least, the two forms of automatic braking will exist side by side in both Europe and America, each as the prevailing form on one side of the Atlantic. The existence of the tire or rim brake in this country, however, will doubtless be due in many instances to the motor bicycle, for which it is particularly well adapted and in connection with which its advantages are especially noticeable.

COASTER BRAKE

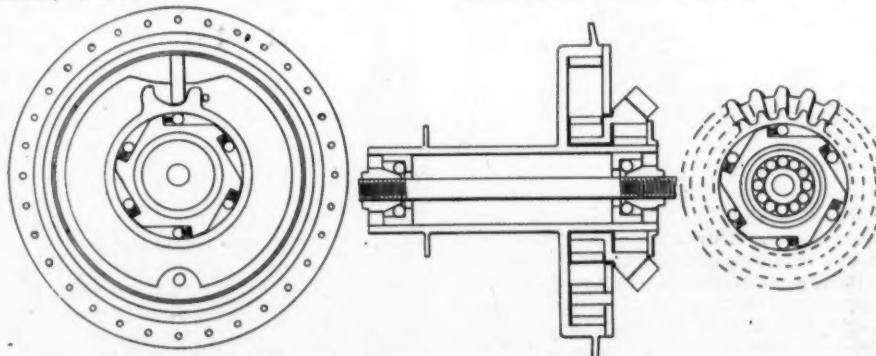
Letters patent No. 675,261, dated May 28, 1901; to George F. Barton, of Elmira, N. Y.

The accompanying illustration shows one of the three forms in which this brake is presented in the patent specification sheets. It is described as being fitted with a bevel gear, such as the hub pinion of a chainless bicycle, although the construction is equally applicable to a chain driven machine.

The bevel pinion is mounted rigidly on or formed integrally with a loose sleeve set upon the end of the hub. Within the outer portion of the gear sleeve is an ordinary roller driving and coaster clutch and the inner reduced portion of the sleeve carries a similar clutch to actuate the brake. The second clutch is within the brake casing, which is in the form of a cup flange on the hub barrel.

The brake band, which is of spring metal, is held in close proximity to the inside face of the annular flange of the brake casing by a flat plate which closes the open face of the brake casing and also, by means of an extension clamping to fork side, serves as the stationary member of the device to prevent rotation of the brake band.

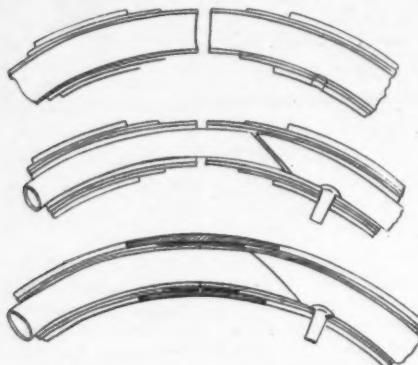
Between the thickened ends of the brake band is a small flat plate whose inwardly projecting end rests between two lugs on the periphery of the ring of the brake clutch. The faces of these lugs



BARTON'S COASTER BRAKE FOR CHAINLESS BICYCLES.

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are so curved that when the clutch ring is moved backward by back pedaling motion, the loose plate will be tilted pivotally and will thus pry the ends of the brake band apart to expand it into friction.



Palmer and Berrodin's Tire.

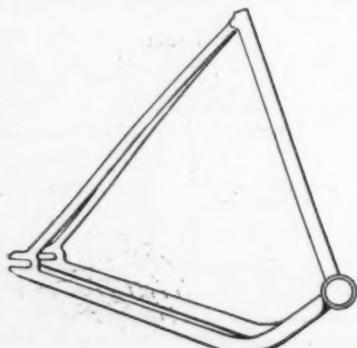
tional contact with the casing flange. A small pin on the inside of the casing acts as a stop for the acting lug of the clutch ring when the latter is returned to normal position subsequent to cessation of back pedaling.



TIRE MAKING PROCESS

Letters patent No. 675,164, dated May 28, 1901; to Theron R. Palmer and Frank X. Berrodin, of Erie, Pa., assignors to the Pennsylvania Rubber Co.

This invention comprises a method of manufacturing a tire which is substantially a single tube tire but whose inner air tube may, if desired, be withdrawn for repair or replacement by making a



Green's Rear Frame Design.

slit in the outer casing, this to be laced up upon replacement of the tube.

As is well known, it is ordinary practice in making single tube tires to inflate the tire with water or air before vulcanization so that the air or water, when

heated, will expand the tire tightly into the mold and thus act as a mandrel during vulcanization. This process of vulcanization is employed in the operations comprising this invention and the canvas sheathing and rubber tread portions of the tire are also built up around a mandrel in the usual manner.

No inner tube is placed in the tire, however, until it is removed from the forming mandrel. Then, before the ends are spliced, a butt end or a continuous inner tube is placed within the casing, the inner wall of the latter and the outer surface of the former having been previously thoroughly coated with soapstone to prevent adherence of the two during vulcanization.

The ends of casing are next brought together and spliced in the usual manner, as shown in the illustration herewith, the tire inflated, placed in a mold and vulcanized. Both the outer casing and the inner tube are thus completely vulcanized, but vulcanized independently of each other and when finished are in no wise connected to each other except that one is within the other. If desired, the inner tube may be partially vulcanized before being inserted into the casing for final vulcanization.

The relation of this invention and patent to the Tillinghast patent is obvious. The first claim is as follows:

"A method of making pneumatic tires, consisting substantially of making a tube or sheath of layers of fabric and rubber, inserting a loose rubber inner air tube therein before the ends of the tube or sheath are brought together and spliced to form a tire, and then placing the tire in a vulcanizing mold and expanding the loose inner air tube therein, and then vulcanizing the tire, substantially as set forth."



FOR MOTOR BICYCLES

Design patent No. 34,579, dated May 28, 1901; to George D. Green, of Rochester, assignor to James H. Sager.

This rear frame design, whose characteristic feature is the curved rear forks, is one of the several patents recently granted to the inventor of the Regas motor bicycle and comprises one of the features of that machine.



TWO-SPEED CHAINLESS

Letters patent No. 675,067, dated May 28, 1901; to Marion L. Nichols, of Westfield, N. J.

Two weeks ago a patent was issued to Mr. Nichols for a hand operated band brake actuating upon an extension from

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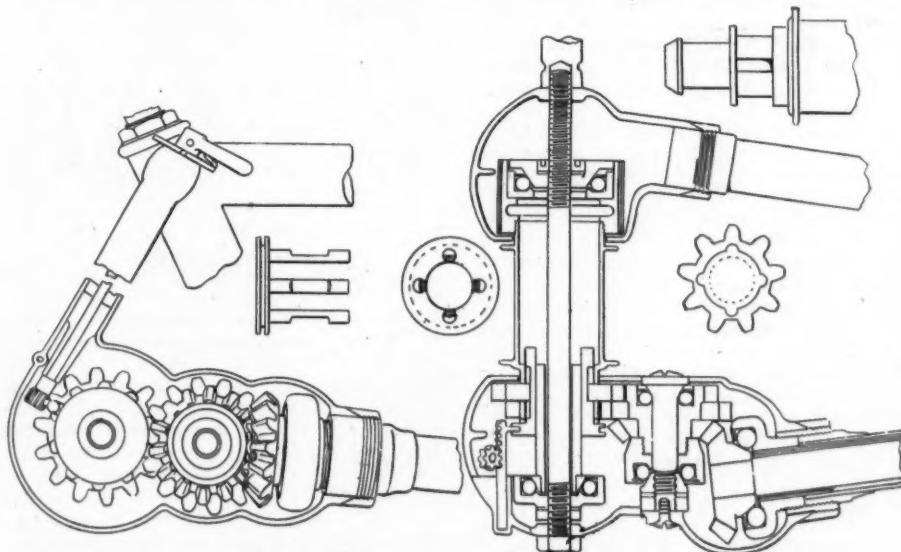
the left end of the rear hub and contained entirely in a spherical casing at the rear end of the frame. This brake is described briefly as a part of the transmission device comprising the subject of the present patent, the two features of band brake and two-speed gear having been divided into separate patents. The two-speed gear is applicable to bevel gear driven machines and is contained within the gear casing at the end of the right rear fork tube.

The casing is in an upper and a lower section, the upper being a rigid portion of the frame with the lower hinged to it and retained by a locking collar around the fork tube seat at the forward end of the

is fitted with a small handle or lever with a notched quadrant to afford a spring lock at each of the three points of its range of movement.

The clutch head on the hub sleeve has four fingers, equally spaced circumferentially of the sleeve and lying for half of their thickness in longitudinal grooves cut in the enlarged portion of the sleeve underneath the loose gears. Each of these fingers has a central cut-away portion, the bottom of which coincides with the surface of the enlarged portion of the sleeve.

When, by means of the rack and pinion, the clutch is shifted inwardly to the limit of its movement the complete



NICHOLS' TWO-SPEED CHAINLESS GEAR.

casing. The transmitting rod or shaft carries the usual bevel pinion but between this point and the rear hub is interposed a cross shaft which carries a bevel gear, meshing with the transmitting shaft pinion, and two spur gears of different size, these being rigidly mounted.

The right end of the hub terminates in a hollow extension or sleeve with an enlarged portion adjacent to the hub barrel and upon which are loosely mounted two spur gears meshing with those on the intermediate cross shaft. A sliding clutch head is placed on the hub sleeve outside of the gears and is adapted to be shifted by a rack and pinion, the rack having a lug which engages a circumferential groove in the clutch head. The rack pinion is rotated by a rod extending upwardly through the right rear stay tube to the seat post cluster, at which point it

fingers adjacent to the clutch head will engage semicircular notches in the outer of the two loose gears, locking it to the hub and furnishing one of the two drive speeds. In the meantime the cut-away portions of the fingers are underneath the other gear, allowing it to run loosely.

When the clutch is moved outwardly to its intermediate position the cut-away portions of the fingers will lie under both gears and the machine is disconnected for coasting or the application of the brake. Further outward movement brings the complete end portions of the clutch fingers into engagement with the semicircular notches of the inner of the two gears and furnishes the second of the two drive speeds.

Mr. Nichols might more profitably adapt his gear and brake to motor bicycle drive than to that of the pedal

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driven chainless as it is probable that a two-speed gear in motor bicycles will soon be demanded.

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BACK PEDALING TIRE BRAKE

Letters patent No. 675,288, dated May 28, 1901; to Nathan E. Nash, of Toronto, Canada.

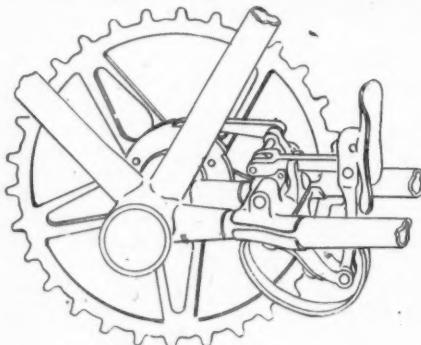
Although not generally counted as desirable on bicycles on account of the constant clicking of the ratchet pawl or similar mechanisms, back pedaling tire or rim brakes operated by the crank shaft are worthy of consideration in connection with motor bicycles. The motor bicyclist does not use his pedals to any great extent, their principal purpose being to start the motor. Thus a slight clicking during the forward rotation of the pedal crank shaft is not the nuisance it is in connection with the constantly rotated crank shaft of a bicycle.

Incidentally to the comparative use in this connection of the terms motor bicycle and bicycle it is noticeable that, although both are bicycles, the pedal driven machine on account of its precedence in the industry is worthy of being called bicycle without the qualifying term designating the source of its motion.

Mr. Nash's brake is a simple form of tire brake actuated by a pawl and ratchet device on the crank shaft. The rear wheel hub is furnished with a suitable sprocket drive and coaster clutch. Upon the crank shaft, adjacent to the inner face of the sprocket, or secured directly to the sprocket spokes, is a ratchet

disk upon whose upper portion rides the free forward end of a pawl pivoted upon a short crank arm which, in turn, is pivoted on a bracket clamped to the rear fork tubes directly back of the hanger yoke.

The pivot pin of the pawl extends through the eye of the crank, its crank arm and into and through the eye of a similar crank arm pivoted on the rear fork bracket on the lateral center of the machine. Encompassing the sides of this crank arm and engaging the pivot pin is the forward forked end of the brake rod, whose rear end attaches directly to a vertically disposed spoon brake. The brake



Nash's Back Pedaling Tire Brake.

spoon is hinged upon a depending arm from the rear fork bracket and is normally held out of engagement with the tire by a looped flat spring.

AMERICAN EXPORTS OF BICYCLES AND PARTS

	—April—		—Ten months ending April—	
	1900.	1901.	1899.	1900.
United Kingdom	74,534	66,025	727,056	308,582
France	25,790	30,073	404,218	206,112
Germany	35,202	29,117	955,510	358,161
Other Europe	70,979	75,633	1,204,374	586,118
British North America	60,585	56,617	427,432	265,393
Cen. American States and Brit. Honduras	228	430	4,733	2,563
Mexico	1,920	2,244	42,804	21,128
Santo Domingo	35	108	255	272
Cuba	4,812	881	13,066	142,616
Porto Rico	407	2,345	2,376
Other West Indies and Bermuda	4,181	4,698	54,176	43,432
Argentina	3,513	324	181,901	139,453
Brazil	1,766	629	48,599	24,906
Colombia	263	145	6,650	6,213
Other South America	2,887	5,068	42,354	57,664
Chinese Empire	288	1,930	21,787	23,245
British East Indies	2,134	5,439	137,604	94,194
Hongkong	923	694	7,015	6,998
Japan	13,917	28,134	103,248	189,309
British Australasia	34,624	16,222	224,664	210,113
Hawaii	4,652	33,306	43,532
Philippine Islands	5,336	3,563	575	20,109
Other Asia and Oceania	1,905	2,838	28,492	38,804
Africa	4,387	2,217	156,436	54,407
Other countries	92	36	616	181
Total	355,349	333,125	4,829,214	2,906,381
				1,929,556



CYCLING SPORT AND PASTIME



DECORATION day was a time of racing in New England. There were several track openings and on the ovals which had already been the scenes of this season's racing there were also hotly contested events before large crowds. Nearly all of the prominent races, with the exception of those at Vailsburg, were motor-paced, middle-distance events. Some of the middle-distance men rode two races, one in the afternoon and one in the evening, and the Charles River park track at Boston was the scene of two meets.



OLD HANDS SHUT OUT

Newark, N. J., May 31.—Nearly 8,000 persons witnessed sensational cycle racing at Vailsburg yesterday. It was the largest crowd that had ever attended a meet at that place and the seating capacity was altogether inadequate. Spectators swarmed over the track and into the infield, while the crush in the grand stand was so great that a section of flooring fell in. Three men and a woman were shaken up by the accident.

The feature of the racing was the defeat of professional stars of long standing by riders who have recently joined the cash prize ranks. In the half-mile race, F. L. Kramer and G. C. Collett, who a year ago were rivals for amateur championship honors, shut out Floyd MacFarland and Tom Cooper, respectively, in trial heats.

In a blanket finish in the final, Owen Kimble, holder of the mile championship, was beaten by Kramer by inches, while Collett was almost an equally close third, and J. P. Jacobson, another of last year's amateurs, was a good fourth.

The bumping handicap was tried for the first time in this country. It was run in heats, and as soon as any one rider was overtaken, he retired, the trial heats ending when only one rider remained on the track. The final was run as an ordinary 2-mile handicap. In this MacFarland overtook Frank Kramer, and the spectators not understanding that the nature of the contest was changed in the

last heat, clamored for Kramer's withdrawal. Hardy Downing from a long allowance won the race with Kramer, who had again drawn away from MacFarland, in second place.

M. L. Hurley showed unexpected speed in the amateur events, winning both the half-mile and 5-mile races with ease.



ELKES IS UNLUCKY

Boston, May 31.—The new bicycle track at Revere park opened yesterday to about 7,000 persons, and the attendance would have been much larger but for the weather.

The star event, a 25-mile motor-paced race, was won by Jimmy Moran of Chelsea, with Harry Caldwell, of Manchester, second, and Harry Elkes, third. The order of the finish does not tell the story. It would have been Elkes' race had his motor not gone wrong, and there is a probability that he would have won at that had his rear tire not punctured and caused him to fall upon the track in the fifteenth mile.

At the pistol Elkes took the lead, followed by Moran. Caldwell was in third place. At the half Elkes was 100 yards ahead of Moran, while Moran was 40 yards to the good of Caldwell, who was lapped for the first time on the seventh lap.

At the third mile Elkes had lapped Caldwell four times and Moran had turned the trick three times on the Manchester man. On the fourth mile Caldwell changed motors. Elkes was then another half lap ahead of Moran.

In the eighth mile Caldwell punctured his tire, and in changing to another machine lost four laps. Moran meantime opened up a gap of a half a lap while Elkes was waiting for a fresh machine, his own motor being played out. He was riding easy, while Moran was plugging his hardest to get back one of the laps which Elkes had gained on him. Elkes' reserve motor next broke a chain and was of no use to him. It resulted in Moran getting back a lap, and Elkes tacked onto one of Caldwell's machines. Moran

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continued to gain on Elkes, despite the efforts of the Caldwell motor, and at 12 miles only 100 yards separated him from the champion. On the thirteenth mile Moran was shaky, and Elkes gained fully 50 yards.

On the first lap of the fifteenth mile Elkes ran off the edge of the track and fell with a crash onto the board surface. He was attended by physicians and carried from the track. Moran kept right on, as first money was sure then, and Caldwell plodded along for second money.

The summary of the race is as follows:

Miles. leader	Time
1—Elkes	01:34 4-5
2—Elkes	03:08 3-5
3—Elkes	04:42
4—Elkes	06:16 3-5
5—Elkes	07:51 2-5
10—Elkes	16:25 3-5
15—Moran	25:22 1-5
20—Moran	33:48 2-5
25—Moran	42:22 3-5



TWO FOR JIMMY

Washington, May 30.—Three thousand persons saw Michael, the "Welsh Rabbit," defeat Watson Coleman, in a 20-mile paced race at Coliseum park this afternoon. Coleman rode a splendid race, but his pacers apparently could not develop sufficient speed to carry him to victory. He could have passed his pacing machine at any time. With proper pace he could have given Jimmy a run for the money, seeming to be in excellent condition. Michael was three laps ahead at the finish. The time for the 20 miles was 32:16%.

Baltimore, May 31.—A 20-mile paced race was won tonight by Jimmy Michael from Watson Coleman and O. V. Babcock by 3% laps. The Welshman's time was 33:15 1-5. Coleman and Babcock rode in 5-mile relays, changing each time without slacking their own pace or that of their motors.



FRENCH TAYLOR WINS

Philadelphia, June 3.—Four thousand persons greeted the appearance of Edward Taylor, the Frenchman, at Woodside Park track, in the afternoon of Decoration day. The piece de resistance of the program was a 20-mile motor-paced race between the foreigner and Frank Caldwell. The latter got off in the lead, but was passed by the Frenchman on the second lap. But a thin section of daylight separated the contestants up to the seventh mile, when Caldwell's pace

went wrong, and two miles further on the American's pilots went out of commission entirely, and the Gaul reaped his first lap. At this juncture Lewis Sackett, the Boston motor bicyclist, got into the game and carried Caldwell around so fast that he got back half a lap of the Frenchman's lead, but was not able to catch him, the latter finishing half a lap to the good in 35:46 2-5.

The preliminaries were of the kind that enthused the spectators. After finishing second in the amateur mile handicap, J. Philips, a boy of about 19, rode down six opponents in an Australian pursuit race, but it took 13 miles and two laps to exhaust W. R. Stratton, the place man. The time was 36:29. Dave Rambler, who won the road race in the morning, captured third prize in the Australian.

A pursuit race on motor bicycles between Lewis Sackett, of Boston, and Wayne Davis, of this city, was won by the former, after going 2 miles and one lap. The time, 2:28 1-5, was a revelation to the crowd, which had no idea the machines could go so fast.

The following summary tells the story of the Taylor-Caldwell race:

Miles.	Leader.	Time.
1.....	Taylor	1:59 4-5
2.....	Taylor	3:44
3.....	Taylor	5:34 1-5
4.....	Taylor	7:21 3-5
5.....	Taylor	9:11 2-5
10.....	Taylor	18:11 4-5
15.....	Taylor	27:35 1-5
20.....	Taylor	36:46 2-5



TWO LITTLE ONES WIN

Boston, May 31.—Memorial day was celebrated at Charles River park yesterday by two race meets, one in the afternoon and the other in the evening. The races were well attended and good sport was furnished.

In the afternoon Johnny Nelson made good his threat to defeat Albert Champion in a 25-mile race, and he not only defeated Champion by an even mile and McEachern by 2 1-3 miles, but broke numerous track records, winning in 39:08 3-5.

In the evening Arthur Ross gave Will Stinson a run for his money and defeated Burns Pierce for the second time that day.

The exciting part of the 25-mile race in the afternoon was in the sixteenth mile, when Champion suffered a bad fall directly in front of the grand stand. He had passed McEachern and was plugging at a fast pace, when all of a sudden he was seen to go into the air and fall on his right side, sliding 30 feet with the

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machine clasped in his hands, he holding it from the track.

McEachern's pace, to avoid striking Champion, was obliged to go onto the grass, which put it out of the business for a time. McEachern then, amid the applause of the spectators, rode without pace mile after mile.

A second bicycle was brought out for Champion and he continued the race. The accident was caused by an insecure plug closing the electrical circuit of the pacing machine. The plug fell out and broke the circuit. The tandem slowed up suddenly and Champion ran into it before he could save himself.

With an even start Nelson tacked on first, Champion second and McEachern brought up the rear. Champion took the lead with a rush and held it until the third mile, when Nelson passed him like a flash.

At 5 miles Nelson was half a lap ahead of Champion, who was the same distance to the good of McEachern. On the sixth mile Nelson scored the first lap on McEachern. He went after Champion hard, but it was not until the ninth mile that he scored on the Frenchman. Two laps further on Nelson again passed McEachern.

The scrapping between Champion and Nelson was slowly but surely killing the Canadian. Champion made a grand rush in the tenth mile, and passed Nelson. Nelson settled down to his work and went after Champion, passed him and three miles further on secured another lap. It was just after the fifteenth mile that Champion was thrown.

At the pistol in the evening paced race Ross went off in the lead, but Stinson was the first to tack onto his machine, with Ross a close second. At the end of the first lap Stinson was 30 yards ahead of Ross, who was 60 yards ahead of Pierce. At the end of the mile the positions were unchanged, except that Pierce had fallen still further back. On the second mile Ross pulled down 10 yards of Stinson's lead.

At 3 miles Ross and Stinson were almost half a lap ahead of Pierce. Stinson was leading Ross by about 10 yards. On the next lap Stinson started away from Ross and opened up a gap of 60 yards. On the last lap of the fifth mile Ross dropped from behind his pace-makers, believing he had been signalled to stop. It resulted in his being lapped by both men. The next lap found Stinson lapping Pierce, who made repeated attempts to go by the Newark dumpling, but Ross stood him off time and again. Stinson was riding a race by himself, while the fight was between Ross and Pierce for second place, Ross trying hard to make

up the lap Pierce had gained on him.

At 10 miles Stinson led Ross and Pierce by almost a lap and a half. In the sixteenth mile Stinson again lapped Pierce. In the seventeenth mile Ross went by Pierce and opened up a gap of 30 yards and went out to pull down Stinson's lead. He gained steadily, but could not pass Stinson. After trailing Stinson for several laps, however, he succeeded in going by, and rode like a whirlwind, opening up a gap of 60 yards.

Stinson was shaken in the twenty-second mile, and was apparently ridden out. Ross gained yard after yard, and on the third lap of the same mile Pierce passed Stinson, and he, too, opened up a gap. Stinson now went up and by Pierce, and seemed to get a new lease of life. On the second lap of the twenty-third mile Ross was in the stretch even with Stinson. At the finish he was 15 yards behind. Pierce was two laps behind.

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NEWHOUSE PLUS HOME TALENT

Cleveland, June 3.—The Decoration day races of the Cleveland Wheel Club were postponed until Saturday, June 1, on account of inclement weather. When run there was a fair attendance at the Cleveland driving park to witness the amateur and professional events on the one-mile oval. In the amateur events local riders figured prominently.

Below is the summary of the events:

Mile open, amateur—Won by E. A. Somers, Cleveland; Gust Furtos, Cleveland, second; W. A. Stevenson, third. Time, 2:29 4-5.

Mile open, professional—Won by Al Newhouse; James Bowler, second; Lester Wilson, third. Time 2:40 1-5.

Five-mile handicap, amateur—Won by E. A. Somers (scratch); W. A. Stevenson (25 yards), second; Gust Furtos (50 yards), third. Time 13:21.

Two-mile handicap, professional—Won by Al Newhouse (scratch); Ed Steinmetz (150 yards), second; James Bowler (75 yards), third. Time 5:11 3-5.

One-third mile state championship, amateur—Won by Gust Furtos; E. A. Somers, second; Spencer Gray, third. Time 49 1-5.

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ROSS ARRIVES FIRST

The principal event of the race meet at Brockton, Mass., Memorial day, was a 20-mile paced race between Arthur Ross and Burns Pierce. Ross followed his new motor in fine shape, leading all of the way. When he squared away for the final quarter, which was done in 21 flat,

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the crowd got upon its feet and cheered. At the finish of the race he led by $1\frac{1}{4}$ miles. Ross' time was 32:27.

STINSON AT PROVIDENCE

The Providence, R. I., coliseum opening attracted 8,000 spectators, who came to see the much advertised \$1,000 (?) 25-mile match between Will Stinson, Nat Butler and Bobble Walthour. Stinson won in 39:24 1-5, with Walthour second. Butler dropped out in the twenty-third mile. He had an accident, poor pace and was, generally speaking, out of it all the way, being constantly lapped by the others.

Walthour hugged Stinson close until the seventeenth mile, when he dropped behind his pace. He caught the machine again, however, and was only a half lap behind at the finish.

INTERCOLLEGIATE FINALS

New York, May 30.—The intercollegiate bicycle championships, twice postponed, were run at Berkeley oval this after-

noon. Yale captured the championship, as was generally expected, scoring thirty points, Princeton seventeen, Pennsylvania seven, and Columbia one.

The summaries are as follows:

Half-Mile—Won by E. W. Farley, Yale; G. V. W. Voorhees, Pennsylvania, second; S. W. McClave, Jr., Princeton, third; F. T. Mason, Yale, fourth. Time, 1:05 2-5.

Mile—Won by S. W. McClave, Jr., Princeton; E. W. Farley, Yale, second; Bert Ripley, Princeton, third; R. C. Gentry, Yale, fourth. Time, 2:35 1-5.

Quarter-Mile—Won by F. T. Mason, Yale; R. H. Gentry, Yale, second; D. G. Butts, Yale, third; S. W. McClave, Jr., Princeton, fourth. Time, 0:32 1-5.

Mile, tandem—Won by E. W. Farley and J. H. Overall, Yale; G. V. W. Voorhees and C. N. Smith, Pennsylvania, second; R. H. Gentry and M. Moore, Yale, third; H. B. Barnitz and J. C. Gilpin, Pennsylvania, fourth. Time, 2:03.

Five-Mile—Won by Bert Ripley, Princeton; R. H. Gentry, Yale, second; S. W. McClave, Jr., Princeton, third; C. R. Rose, Columbia, fourth. Time, 14:47.

DECORATION DAY ROAD RACES

CHICAGO

Although there was no traditional Pullman nor a Wheeling nor any other regulation Decoration day road race in Chicago of the kind that made the windy city famous, there was a road race on Memorial day and a hard one at that, one lasting from early morning until afternoon and straining both place and time winners to the utmost of their endurance.

Christian Grunnet sped across the tape in front of the Chicago avenue pumping station at 12:10, the winner of the first prize and also the second time prize in the second annual century road race of the American Century Wheelmen, over the Libertyville-Waukegan course. His time was 5 hours and 40 minutes for the century, thus beating the time record of last year's run by 16 minutes. The last few blocks of the run, from Lincoln park to the finish, were hotly contested by three men, Grunnet, S. H. Sweeney and Hans Kluver, who finished in the order named. Sweeney was disqualified later when the checker from Waukegan came in and declared that Sweeney had not registered at the turning point.

William ("Farmer") Blum, a scratch man and well known locally as the dark-

horse winner of the 1898 road race, came into sight at the turn in Lake Shore drive just an hour and twelve minutes after Grunnet had finished, and forty seconds later he crossed the tape at a terrific pace, the winner of the first time prize. The third man in and the winner of second place, Hans Kluver, also carried off the third time prize.

Despite the cold and threatening weather there was a goodly crowd out to see the start. Many of the spectators brought lunch baskets and prepared to stay for the whole show. Just before the 1:20 men got away a pretty girl in a gray tailor-made gown marched up to one of the riders and planted a rousing smack upon his lips. This seemed to brace him wonderfully—also the crowd.

There were 78 starters in the race, and from the first crack of the pistol at 5 a. m., which was the signal for the lone limit man, Walter Brunn, to leave the tape, to 8 o'clock, when the six scratch men left, everybody was busy. When the last man had started everybody gave a sigh of relief and settled back for a long wait.

There were few accidents. Only one was at all serious. J. J. Patton fell and fractured his left shoulder. Other falls

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resulted in nothing more serious than a few scratches and bruises. Al Bird of Minneapolis, one of the scratch men, arrived at the starting place to find that his entry had not been received. He was allowed to start, but bad luck attended him. He had four punctures and lost his repair kit, so that he had to give up the race and come in on the train. Two other scratch men, George Harbert and Al Flath, collided and smashed their machines badly. Harbert gave up, but Flath secured another bicycle and finished.

Along about noon the crowd in front of the starting point became impatient, but the officials of the affair said that the riders would not appear for an hour. Then the officials went into the pumping station to hold a conference, but they were rudely interrupted by a small boy's shout, "Here they come."

There were but two hot finishes. Drach, Pleiffer and Blankenheim fought all the way from Lincoln park for the lead. First one and then the other had it, but at last Drach forged his machine to the front and crossed the tape a few seconds ahead of his competitors.

There were two extremes of age in the race—Thomas Clugston, a slight lad of 15, finished thirteenth; a few minutes afterward F. W. Tuthill, a 51-year-old centenary rider, finished.

Following is the order of the first 10 men to finish.

Name.	Handicap.	Time.
1 C. Grunnet	1:30 5:40
2 H. Kluver	1:30 6:40:30
3 W. Brunn	2:30 6:45
4 A. E. Keppel	2:30 6:49
5 C. Robus	2:15 6:47
6 R. Drach	1:40 6:14:30
7 H. Pleffer	1:30 6:04:45
8 Charles Blankenheim	1:40 6:16
9 John Orient	2:30 7:13
10 E. S. Lindeman	1:20 6:03:05

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IRVINGTON-MILBURN

New York, May 31.—A journeyman plumber and married man won the fourteenth annual Irvington-Millburn road race yesterday. David Turner, who is this year's candidate for fame, as the conqueror of the hills in the 25-mile ride, is the most remarkable novice the historic race ever has developed, and the race is famous for having brought out "dark horses."

Turner won in a sensational style. The finish of the race was quite as exciting as any in the history of the event. Two hundred feet from the tape George Miller was leading Turner by an open length. They made a hard fight of it, but Turner had more sprint left in him after the

hour of hot hill climbing than did Miller and he won by about three-fourths of a length.

The race was scheduled to begin at 10:30 a. m. The first men were pushed over the tape at 12:45. There were 97 men entered and 78 of them started. There were a great many falls and yet fewer seriously injured men than the race usually furnishes. After 15 miles had been traveled, it seemed almost as if every man had taken at least one tumble, so common was it to see a man mud-be-draggled.

In spite of the mud the race was a fast one. The winner started with a handicap of 4 minutes and 30 seconds and his net time of 1 hour 15 minutes and 20 seconds is 3 minutes and 40 seconds better than that made by George Soden, who won the race in 1897 in a downpour of rain. The time prize was won by riding the 25 miles in 1 hour 12 minutes and 45 seconds, whereas R. M. Alexander, now a professional, and three times a winner of the time prize over the course, won it in 1897 by taking 1 hour 17 minutes and 9 seconds to do the distance. The race and the time made is most fitly compared with those of '97 because of the mud. In 1898 Alexander won the time prize in 1 hour 10 minutes and 50 seconds.

Besides the fine struggle for first place between Turner and Miller there was another and really a grander one for the time prize, between John Achorn and Charles Schlee, who rode from scratch. They came along with Ernest Gillott, a one-minute man, riding almost abreast, and as the three crossed the tape each was lapped on the other's wheel. Gillott first, Achorn second and Schlee third. Edgar Van Velsor of Oyster Bay, L. I., who won the race last year, was about ten seconds behind. Achorn won first time prize, Schlee second and Van Velsor third.

Following is the order in which the first 10 men finished:

Name.	Handicap.	Time.
1 David Turner	4:30 1:15:20
2 George W. Miller	4:00 1:14:51
3 Harry P. Jewell	6:00 1:16:52
4 Albert Cohn	4:30 1:15:23
5 Walter H. Cuttle	6:30 1:16:54
6 Arthur P. Van Deever	6:00 1:16:55
7 Joseph See Reynolds	5:00 1:15:56
8 George E. Cook	5:00 1:15:57
9 Harry Hinceley	5:00 1:16:12
10 J. S. Willis	7:00 1:18:15

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PHILADELPHIA

Philadelphia, June 3.—The first annual Memorial day road race run off under the joint auspices of the local cycle board of trade and the Associated Cycling clubs

SPORT AND PASTIME.

was a huge success despite the fact that six straight days of rain had made some portions of the 16-mile course look like the clay pit of a brick yard, and induced some 17 of the 96 entries to dodge the issue. All but six of the 79 starters, however, finished, some of them in various degrees of exhaustion.

The winner was a dark horse of the most intense sable—one Dave Rambler, whom Handicapper Powell thought so little of as to give him a 5-minute start on the scratch men, Van Hest and Carr. Rambler not only finished first, at least half a mile ahead of the second man, Berry (7 min.), but won third time prize as well, his 49:29 being exceeded only by the 48:12 of Van Hest, one of the scratch men, and the 49:10 of Robinson, who started with the 3½-minute bunch. This trio were the only ones to do the course under 50 minutes.

Van Hest rode an exceedingly plucky race, shaking off his fellow back-marker early in the game and going through the ruck like the stocky little plugger he is. He finished in ninth position, and had it not been that the crowd formed a narrow lane at the finish, rendering it impossible for one man to pass another, he could have bettered his position by at least two points. The crowd at the finish was the cause of an accident. W. H. Pearce, who finished twelfth, had just crossed the tape, when, for some reason or another, the living lane contracted in front of him, and he smashed into Harry Knight, an old racing man, necessitating the calling of an ambulance and the transfer of the two to the nearest hospital in a badly cut-up condition.

The following table gives the order of finish of the first 10 men with their handicaps and time, which, considering the quagmireish course and the inclusion of Barren and Conshohocken hills (½ and

1½ miles long respectively and stiff climbs even under normal conditions), were very good:

Order of Finish.	Rider,	Hdcp.	Actual Name.	Handicap.	Time.
1	Dave Rambler	5:00	49:29		
2	E. W. Berry	7:00		52:38	
3	B. Ferguson	5:15		50:55	
4	J. H. Robinson	3:30		49:10	1-5
5	H. R. Wilde	5:00		51:26	
6	W. R. Stroud	4:00		50:46	2-5
7	A. Barmado	5:00		51:57	4-5
8	W. L. Kern	4:30		52:40	
9	Geo. B. Van Hest	Scratch		48:12	
10	L. R. Litzenberg	6:00		54:12	1-5

CINCINNATI

Cincinnati, May 31.—The road race yesterday from Lindenwald, near Hamilton, to Chester park, a distance of 25 miles, resulted as follows: First, William Klett, Dayton; second, O. C. Gingerich, Hamilton; third, J. S. Plank, West Liberty, O.—who won the time prize in 56:05;—fourth, F. L. Potter, Washington. Drizzling rain fell during the latter part of the race.

WORCESTER

Worcester, Mass., May 31.—The Associated Cycle Clubs' annual handicap road race was run yesterday afternoon over a 10-mile course. There were more than 60 starters, but only 31 finished. The roads along the course were crowded with people.

The winner was F. C. Eckstrom, who started from the 3:30 mark. His time was 30:30. R. T. Vincent was second. The winner of time prize was R. A. Carni (scratch), in 28:50. The second time prize man was George A. Brown (2:30), in 29:45.

BIG PRIZES THE MAGNET

Salt Lake City, May 30.—The Butte (Mont.) cycle track will have its effect upon the racing game here and will draw upon the racing men to such an extent that the local saucer may have to be closed for a short time. The Butte Athletic Association incorporated last week and John B. King of this city, was made manager of the cycle track.

According to present plans, it is the intention of the management to hang up in purses \$25,000 for the racing season, which opens June 29 and closes in September. The promoters will give \$2,500 in prizes every week and all the best riders here have already announced their in-

tention to leave as soon as the track has been built and the racing commences.

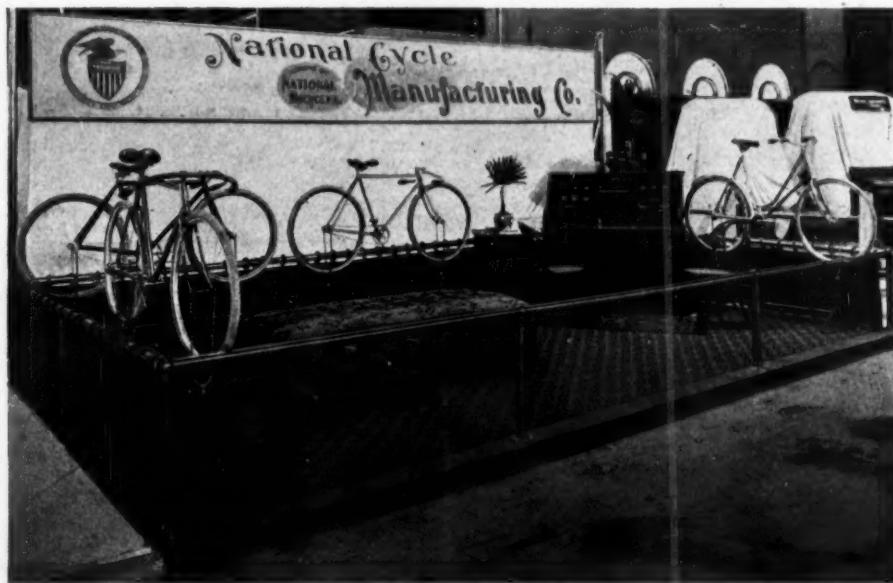
Iver Lawson was signed for the season by Ben King on the track and he will be missed from the track in this city as he is one of the best riders in the country and has won a home here. Manager Rishel of the Salt Palace track is trying to induce the men to remain, but unless he can show the big money it is feared that he will be deserted by the professionals, and the amateurs as well. With the exception of John M. Chapman and Wm. Vaughn, who are yet in Australia, all the racing men of last year are here, and the interest in cycle racing seems to be just as great.

INFORMATION FOR BUYERS AND BUILDERS



FEW BICYCLE manufacturers are making displays at the Pan-American, but among those who are on hand at Buffalo is the National Cycle Mfg. Co., of Bay City, Mich., whose booth is located in the northwest corner of section

prominent in past years being shown most thoroughly. The special wheel of this year, the cushion frame, coaster brake, chainless model, is displayed prominently, sections of the frame and chainless factors being mounted in such



NATIONAL BICYCLE EXHIBIT AT THE PAN-AMERICAN.

8 in the transportation building and covers an area of 200 feet, fronting on two aisles.

The National people have not indulged heavily in decorations, confining themselves to attractive signs and hangings in National blue, and to the furniture necessary to equip the booth in a comfortable manner. They hope to make their booth the resting place of their many friends who will visit the exposition, and have provided facilities which will give customers and friends that at-home feeling.

National bicycles are displayed in the usual manner, and competent men are there to explain them, the special features which have made the National

a way as to make plain just how the machine is made. This is particularly interesting to the practical man, as the National company makes its chainless bicycles entirely in its own factory, from its own designs. The National chainless is being exploited with vigor and so must be up to the well recognized National standard of previous patterns.

The entire line shown comprises 13 models, varying in price from \$40 to \$75. The booth is at present in charge of S. B. Jones, the Ohio representative of the company, while J. H. Johnson, at 35 Niagara street, Buffalo, looks after the local demand, and incidentally helps visiting friends of the National as much as possible during their stay in the Pan-

INFORMATION FOR BUYERS.

American city. At the exposition and everywhere else the National company points to the fact that every machine made by it bears the National trade mark.

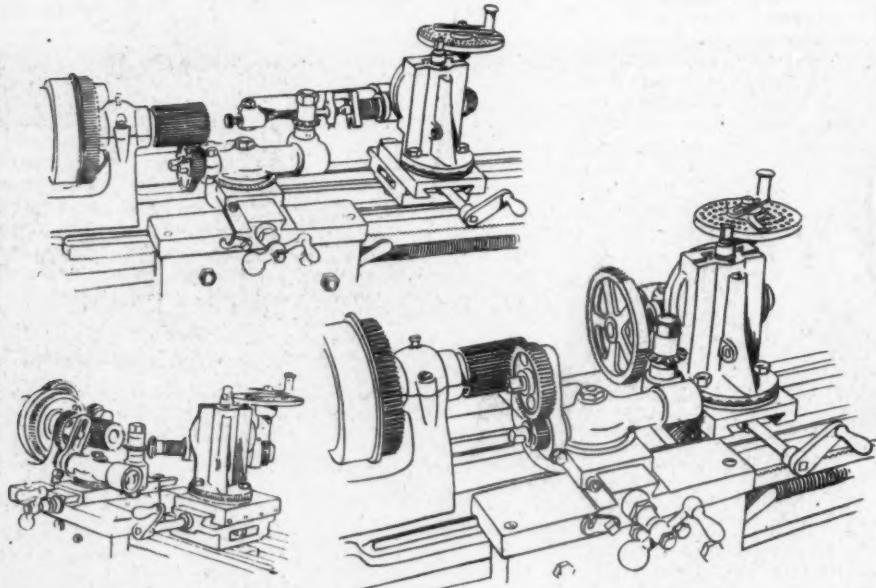
GEAR CUTTING ON LATHES.

The accompanying illustration shows a new attachment for lathes which will take the place of gear-cutting and milling machines for many kinds of work. It is designed to do accurate work.

The bracket piece which contains the driving mechanism is attached to the cross feed slide of the lathe in place of the regular tool post. The driving arbor which runs through this bracket piece

commodating the cutters to the various sizes of work. The automatic longitudinal feed or the hand crank may be used to feed the cutter to the work.

The base of the swivel dividing head is securely clamped to the lathe bed by means of two bolts and a binder plate and has cross and vertical feeds which are operated by a hand-crank. The upright part swivels on the cross feed slide, which is graduated, and renders it capable of fine adjustment to any horizontal angle. The frame piece containing the spindle, indexing mechanism and the overhanging arm swivels on the vertical feed slide which is graduated to allow adjustment to any vertical angle. By means of these two feed adjustments and



UNIVERSAL GEAR CUTTING AND MILLING ATTACHMENT FOR LATHES.

transmits motion to the upright or cutter spindle by means of a pair of spiral gears which are encased so that they are protected from dirt and chips. The driving arbor receives its motion from the head stock spindle through a train of three spur gears, one of which is screwed onto the nose of the lathe spindle and has a wide face which allows a longitudinal travel of 3 inches for the cutters.

Any of the regular change gears furnished with the lathe may be used for the other two driving gears and by using different combinations, a large number of speeds for the cutter may be secured. The intermediate gear is on an adjustable quadrant which swivels on the frame piece, allowing a cross movement of the entire frame piece and slide rest and ac-

the cross and vertical feeds, cuts of any desired angle may be made.

For milling operations requiring a vise, the frame piece containing spindle and indexing device and overhanging arm, is removed, and a vise arrangement is attached to the vertical slide. This may also be swiveled to any angle. In using this vise arrangement, the milling cutters may be driven by the head stock spindle.

Chucks, centers, etc., may be used on both the head stock spindle of the lathe and the spindle of the swivel dividing head, as the taper holes and nose of both spindles are of the same size. Gears may be cut as large as the swing of the lathe. A complete index is furnished and all numbers of teeth may be cut from one to

INFORMATION FOR BUYERS.

50 and nearly all numbers up to 360. Brown & Sharpe or any standard milling and gear cutters can be used.

The illustration shows the attachment arranged for cutting spur, bevel or mitre gears, milling cutters, etc., and for cutting flutes in taps, reamers, etc.

This attachment is made by the Seneca Falls Mfg. Co., 425 Water street, Seneca Falls, N. Y., and is particularly adapted for use on its well known Star foot and power engine lathes, 9 to 13-inch swing. Parties interested should ask for their new catalogue B.

COLE ON TIRE FLUIDS

New York, May 27.—To the Editor:—Concerning the tire fluid situation about which there has been so much said and written, we desire to say that by mutual consent those who were combined to defend against the litigation based on the Duryea patent have severed their connection, each one undertaking his own defense in his own way. We are, personally, now defending the case which was brought on the Duryea patent against W. G. Schack, and propose to continue so to do, hoping that the Buffalo Specialty Mfg. Co. will prosecute that case with all diligence.

Our Mr. Cole is the inventor of the collapsible tube in which we sell our Stop Leak tire fluid, and the idea of injecting tire fluid into a tire directly from a collapsible tube is original with him. Suitable patent applications on this matter are now pending before the United States patent office.

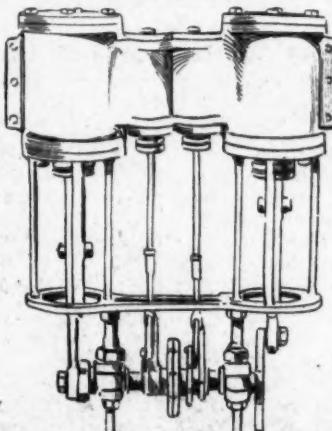
We desire to notify all manufacturers, jobbers and dealers of tire fluid that we own these rights and propose to institute in due time (without further notice) whatever patent suits may be necessary to establish our rights therein, and to recover all damages that the courts shall adjudge to be due us.—Yours truly, G. W. Cole Co.

TYRON STEAM ENGINE

The accompanying illustration presents the new Tryon steam engine, one of the most recently introduced marine type engines for automobile and launch propulsion. It is manufactured by the Curtis Machine Co., 10 West Grand street, Elizabeth, N. J., and its chief characteristic is careful, light construction. The entire engine, whose cylinders are 3 by 4 inches in bore and stroke, respectively, weighs but 51 pounds.

The engine is reversible without stopping the wagon on account of a piston balance valve allowing steam to pass

through both valves to equalize pressure. The cylinders are of cast iron and the balance of the engine of steel, with the exception of brass journal boxes and the

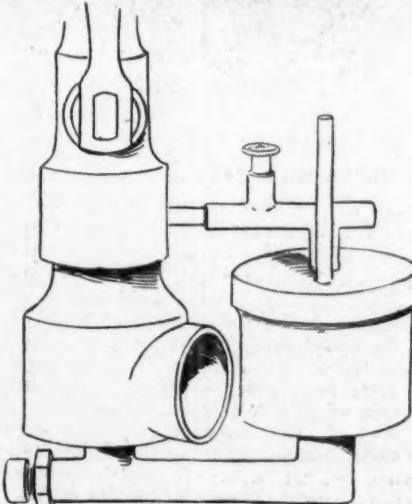


Tryon Steam Engine

usual small brass parts. The eccentrics are turned solid upon the shaft, obviating all chance of slipping or breaking. The cylinders are flanged to allow the engine to be fastened either to the boiler or to the wagon frame. The Curtis company fully guarantees the motor.

NEW BRENNAN VAPORIZER

The accompanying illustration presents exteriorly the recently introduced Brennan vaporizer. The spraying compart-



The Brennan Vaporizer.

ment is connected by a passage to the constant level compartment which is closed automatically by the needle point on the float. From this reservoir the gas-

INFORMATION FOR BUYERS.

oline is drawn by the suction of the motor piston into the spraying chamber where the air and gasoline mixes. The particular feature of the vaporizer to which the maker calls attention is the

the quantity and quality of mixture is readily regulated. The starting valve is opened before starting the motor and closed immediately after. It allows a small portion of gasoline to enter the spraying



THREE AND ONE-HALF TONS ON FOUR RIMS.

construction of the mixing valve which is movable on its guide in a vertical direction, and discharges a measured quantity of gasoline for each suction stroke.

The speed of the motor is regulated by a throttling valve. By turning the lever to the right the motor is run at its highest speed; when the lever is standing perpendicular the motor will run at medium speed, and for slower speed the lever should be turned to the left, which throttles the mixture and governs the speed of the motor. There is no necessity of disturbing the needle valve, which supplies or regulates the quantity of gasoline from the constant level chamber to the mixing valve. The valve once adjusted is held by a lock nut and is not to be disturbed thereafter. The quantity of gasoline supplied at different speeds is regulated by the mixing valve, as it is raised higher at high speed than at low speed, and will discharge a larger quantity of gasoline. With additional cold air

compartment, or mixing valve. The incoming air is forced to pass through the gasoline and therefore the first passage of air to the cylinder is mixed with gasoline, giving an explosion without delay.



RECALLS THE PAST

Comparative tests of strength and other qualities between wood and steel rims for automobiles, recalls the energetic competition between the two styles of rims six and seven years ago in the bicycle trade, when the wood rim first appeared. The following interesting communication from the American Wood Rim Co. is an example of latter-day demonstration of the advantages of wood rims:

Bradford, Pa., May 27.—To the Editor:—Recently, while making some tests to determine the strength of our automobile wood rims, in competition with standard steel rims, it occurred to us to have photo-

INFORMATION FOR BUYERS.

tographs taken, copies of which we send you, and which portray rather novel demonstrations of wood rim strength.

The photographer who called to do this work is an experienced man and an enthusiastic cyclist—in fact he and his camera arrived on the scene mounted on an 1895 model of the Monarch, fitted with steel rims, kinks and all, as of old.

Could we trust him to make these records? Was it proper that a man of such antique association could make a modern photograph of modern wood rims? After he had explained, however, that he had specified wood rims when he ordered the Monarch and that he had been advised not to have wood rims, as they were "an experiment," and all that sort of thing, he won our sympathy and we were more favorably impressed with him.

The incident, however, served to recall the conditions surrounding wood and steel rim competition and the struggle for supremacy in connection with bicycles during the early days and to suggest the analogy with the conditions then existing and the present state of the wire wheel art in the carriage trade.

After placing four of our 28 by 2½-inch automobile blanks, without spokes, one under each corner of the load, consisting of 10 logs, aggregating a dead weight of 6,134 pounds, without appreciably affecting the true circularity of the rims, perhaps no greater evidence of the confidence our workmen have in their skill and the quality of material entering into the construction of our rims could have been suggested than the fact that, without hesitation, 10 of them added their combined weight to the load, making the total dead weight 7,534 pounds, or more than 3½ tons.

With a view to determining, if possible, the weight necessary to collapse a 28 by 2½-inch wood rim, a single rim was subjected to a hydraulic pressure, the gauge registering 6,300 pounds, beyond which pressure the machine was not adapted to accurately determine, and after having been subjected to this test, the rim, three days later, had recovered to within ¼-inch of its true circularity and can be trued up into an absolutely perfect circle for practical use in a wire wheel.

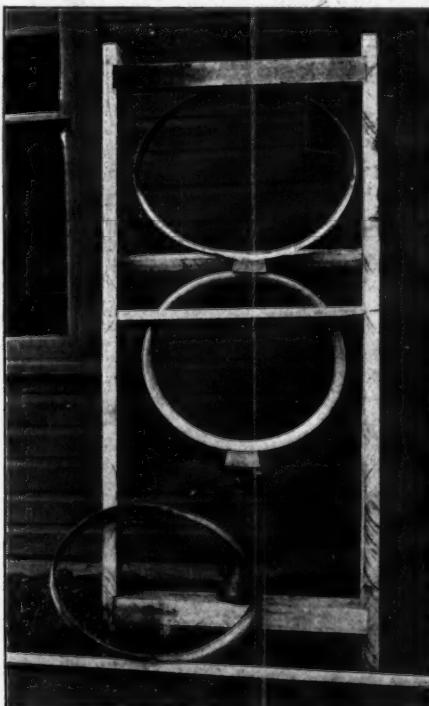
Following this test, a photograph was taken showing the 28 by 1½-inch wood rim in competition with a steel rim of the same size, both being subjected to a uniform pressure to determine which of the two rims would first collapse. The relative distortion of the wood and steel rims is evident from the photograph, the wood rim having suffered a diametrical distortion of 3 inches, whereas the distortion of the steel rim was 6 5-16 inches.

When the pressure was relieved the wood rim recovered to within 3-16-inch

of its true circularity, and 24 hours later had entirely recovered and was absolutely a true circle, whereas the steel rim, when relieved of the pressure, remained 4 inches out of round and was so badly kinked as to be absolutely of no further service.

The next test of the wood rim in competition with the steel rim was to demonstrate the ability of each to resist buckling strain, or lateral distortion, the steel rim collapsing almost before an appreciable strain had been exerted upon the wood rim.

Another test to demonstrate the comparative resiliency of wood and steel rims was made by dropping each of the rims from an altitude of 7 feet 6 inches to a solid surface and measuring the rebound. The weight of the wood rim was 5½ pounds and that of the steel rim, 7½ pounds. The rebound of the wood rim was 57 inches and that of the steel rim 42 inches, a difference of 15 inches in favor of the wood rim. This demonstrates beyond question the superior elasticity or resiliency of wood rims, which is a fea-



Tough on the Steel Rim.

ture highly essential to the life and utility of the wire wheel.

A test of both wood and steel rims laced up, ready for use, showed a still greater degree of resiliency in favor of

INFORMATION FOR BUYERS.

the wood rim.—Very truly yours, The American Wood Rim Co.



ROCHESTER CARRIAGES

The Rochester Gasoline Carriage & Motor Co. seems to be doing a fair business. It is putting through quite a number of steam and gasoline vehicles. The company has two stores in Rochester and is making a special bid for local business. Mr. Deloura, a former Chicago man, is the mechanical head and is completing several vehicles to be used in transportation service between Buffalo and the falls. They are to be shipped immediately. With this company is associated the Wagner Mfg. Co., which has made running gears for the Foster Automobile Co. to its entire satisfaction. The Rochester company also makes steam and gasoline launches, as well as supplies. The Deloura non-vibrating gasoline motor is one of the specialties of the firm.



A HANDY WRENCH

Somers, Fitler & Clarke, 327 Water street, Pittsburg, Pa., are looking toward automobile trade with the wrench shown in the accompanying illustration. The wrench is called the Elgin, is adjustable and will hold pipe, nipples, collars, rods and square, hexagon or round nuts. It is especially valuable to the automobile maker and the automobile owner, as it will grip nuts and other parts where the ordinary wrench will fail. It is also a compact little article and can be carried in the pocket and can be easily and accurately adjusted in a moment. The wrench is nicely finished, well proportioned and fully nickel plated. The jaws are hardened. The wrench is all steel and extra jaws will be supplied if desired, as they are readily removable. The wrench is 7 inches in length and weighs but 10 ounces. Automobile manufacturers as well as job-



The Elgin Wrench.

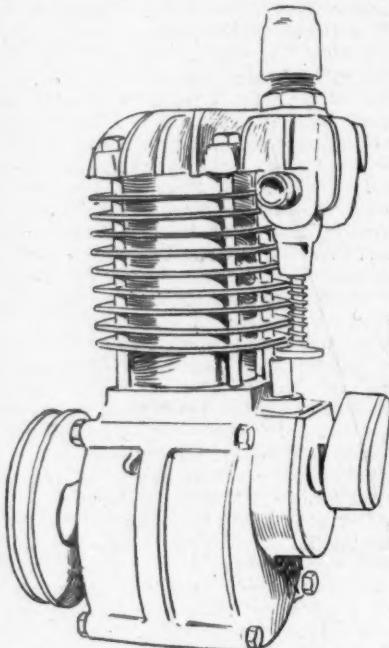
bers of automobile sundries can do well by corresponding with the makers, as the discounts to the wholesale trade are attractive.



MICHIGAN MOTORS

The Detroit Brass & Iron Novelty Co., of Detroit, now manufactures a large line of gasoline engines, ranging in size

from 1½ to 40 horsepower and for motor cycles, automobiles, launches and stationary purposes. The small bicycle motor is shown in the illustration herewith.



The Michigan Bicycle Motor

It weighs 25 pounds and is sold assembled or in castings or with a complete set of appurtenances and attachments for fitting to a bicycle. Two and 3-horsepower motors of the same general design are also made and supplied in the same manner.

The company has, additionally, on the market a complete motor bicycle which is listed at \$175. The motor is attached to the front frame, above the lower reach and directly back of the steering head. Belt drive with a tightener on the seat mast is employed. The battery sparking coil and fuel cases are supported by the upper reach.

A well assorted line of batteries, jump spark coils, mufflers, carburetors and back fire stops supplements the small motor branch of the company's business.



GOOD BOILERS AND ALARMS

The Steam Carriage Boiler Co., of Oswego, N. Y., says that it is the oldest incorporated boiler maker in the United States making auto boilers. The company is presided over by A. P. Murdoch, a young banker of Oswego, while L. W. Mott is secretary and treasurer and C. A.

INFORMATION FOR BUYERS.

Kitts the mechanical head. These people are doing a large business with their boiler and the Kitts low water alarm.

Among the advantages claimed for this company's boilers are the following:

The "dry plate" prevents foaming, and it is impossible for water to get into the steam space above it.

All the tubes pass through this plate and there are enough small holes in it to allow the steam generated to pass into the steam space above it. This dry plate is placed above the water line. Keeping the water separated from the steam by means of the dry plate, the tube surface above the dry plate acts as a superheater which, it is asserted, is desirable on steam carriages, for when superheated steam is used there is little fog visible at the exhaust pipe from the engine.

The shells are seamless and the heads are a part of the shells. There are no seams or rivets near the fire. There is but one seam and this acts as an expansion joint. The tubes in internally fired boilers expand before the outer shell. This expansion joint takes care of the difference in expansion between the tubes and shell and also strengthens the boiler.

The low water alarm is connected to boiler and is also sold by itself. The alarm is guaranteed to be durable and reliable and, Mr. Kitts says, will positively tell when water is low in the boiler. No hollow ball or float is used in its construction; every part is of phosphor bronze and finished all over. The Kitts alarm has seen ten years of service.



TEST OF STANTON'S TORCH

Several handsome steam carriages have recently been turned out by the Stanton

It has been equipped with modern machinery and brought up to date in every particular and is well adapted to the production of high grade work.

The Stanton carriages are built on a



Stanton Steam Surrey.

new running gear patented by the firm. This gear is in the form of a double X, designed to permit it to take the unevenness of the road without strain. The steering bar is at the side and is connected to an eccentric by a chain, to relieve the steering hand of vibration. The throttle handle has an ingenious lock and the reversing lever is at the side, easily reached but out of the way. The engine has a direct throttle connected with a straight rod to the lever and there are no curves or angles to bend or get out of order. The by-pass is regulated by a lever instead of a wheel. The compensating gear is the firm's own product and is backed on each side by heavy steel cups to insure strength and perfect alignment. The burner is fitted with automatic cut-off and auxiliary torch, the effectiveness of which was recently illustrated when one of the firm's wagons was left all night with 200 pounds of steam. In the morning the water in the glass had not dropped half an inch.

M. B. King, the treasurer of the company, is enthusiastic over the possibilities of the Stanton carriage. He has taken a number of long tours in one of them. A double seated surrey which was seen by an Age representative was certainly a very handsome product. It has graceful lines and a stylish appearance.



BUFFALO GASOLINE MOTORS

The Buffalo Gasoline Motor Co. is out for expansion and the doubling up with the Empire Motor Works has increased business greatly. Secretary Snyder told a representative of this paper that the orders coming in are most satisfactory and that the automobile motor, as well



Stanton Steam Runabout.

Mfg. Co., of Waltham, Mass. This company is occupying the large factory formerly owned by the Waltham Comet Co.

INFORMATION FOR BUYERS.

as the motor for boats, is giving the best of satisfaction. The company will now make parts for automobiles and also the complete machine, and plans are under way for a big increase in this line of business.

The mechanical engineer of the company, Superintendent C. G. Annesley, took the writer over the plant and drew attention to a large number of motors which have been tested and passed through the shipping department. Mr. Annesley also gave the visitor a ride on one of the company's vehicles. The speed got out of the machine was fully 30 miles an hour at times, and the carriage took the roughest of roads with ease. Mr. Annesley, by the way, is an enthusiastic member of the Buffalo Automobile Club, and is much interested in the tests which will be given at the Pan-American.

The Buffalo Gasoline Motor Co. also makes motors for stationary purposes.



WITHOUT DELAY

Although the fire of an adjoining building which last week caused the damage by water of the factory of the Auto Supply Co., 310 Mott avenue, New York, resulted in a short delay of the work in hand, the automobile parts factory is now in running order and goods are being turned out as before the fire. All orders will receive prompt attention and there will be scarcely any delay in the shipment of orders already placed.



MARSH MOTOR CYCLES

For the last two years the Marsh brothers, of Brockton, Mass., have been experimenting with motor bicycles. They have devoted practically all this time to the development of the Marsh motor and its application to the bicycle and are now producing a machine which promises to cut a big figure in the motor bicycle world. Several Boston capitalists have become interested in the machine and the Motor Cycle Manufacturing Co. has been organized to market it.

The company has a well equipped factory at Brockton, Mass., and is now turning out motors and motor bicycles in quantities. The motor cycle, complete, weighs only 70 pounds and, it is said, will carry a man of ordinary weight up any grade that a horse can ascend with an empty wagon, and without pedal assistance.

The frame is built of extra heavy tubing and heavy reinforced drop-forged connections. As may be readily seen in the illustration the motor is placed in the angle of the frame just

above the crank hanger, which the company claims is the best place for it. The motor has the same angle as the seat mast tube and is fastened rigidly to it both at the top of the cylinder and at the bottom tube at the base.

The company maintains that the motor works more satisfactorily in this than any other position as the oil has little chance to work up into the combustion chamber and, by coating over the plug, interfere with ignition. The machine is fitted with 1½-horsepower motor and the makers say it will run 100 miles on less than one gallon of fuel. It is easily understood and every part of the motor apparatus can be removed from the frame in ten minutes. The motor is fitted



Marsh Motor Bicycle.

with the Marsh carburetor, located at the bottom of the fuel tank, which does away with all outside piping. The motor is only 4½ inches wide over all and yet has very large bearings and wearing surfaces. The cranks and shafts are made from open hearth steel.

The motor bicycle sells for \$200 and the motor and equipment for \$100. The company has issued an attractive illustrated catalogue describing the motor and the various parts which it will send to those interested.



The National Cement & Rubber Mfg. Co., of Toledo, is marketing a new high class lubricant called Oiline. Special claims are made for it as an exceptionally pure product well suited to automobile and bicycle uses. Samples are being sent to jobbers for inspection.

The Toledo Metal Wheel Co. has just made a shipment of cycles to Manila. This is the first time the company has had business dealings with the islands since the war. Mr. Southard reports a steady and general growth of his export business.

The Stearns Automobile Co. decided to grant the demands of its striking machinists for a shorter day and the same wages and work has been resumed.

INTERESTING REPORT BY LAW COMMITTEE

THE report of the law committee of the Automobile Club of America has just been issued in pamphlet form. It deals at length with the action of congress which made it possible to transport automobiles, carrying gasoline, on ferry boats, and with the Doughty bill, both of which are presented in their entirety.

Extensive and interesting reference is made to the latter and its details are so fully explained that the matter may be of assistance in cases involving the interests of automobilists in other states and in future legislation. It is therefore reproduced.

This, says the committee, in reference to the Doughty bill, is a comprehensive measure, granting many privileges and rights to automobiles and also containing a number of restrictions and qualifications in the use of the highways by automobiles. In discussing the bill we divide it into two subdivisions, namely: First, the restrictions on automobiles; second, the rights of automobiles.

1. Section 166 requires every owner of an automobile, within thirty days from April 25th, to file in the office of the secretary of state his name and address and a brief description of the character of such vehicle and pay to the secretary of state a registration fee of one dollar.

This section shall not apply to a person manufacturing or dealing in automobiles, except an automobile for his private use.

2. The last paragraph in section 169a should really have been made a part of section 166. This requires that every automobile shall have the separate initials of the owner's name on the back of such automobile, which letters are to be three inches in height. This should be complied with immediately.

3. Section 168 should be carefully noted, as this contains provisions relative to the equipment of an automobile, namely, that each automobile shall have good and efficient brakes, also a bell or other signal appliance, and that during the period between one hour after sunset and one hour before sunrise two lamps showing white lights, visible for a reasonable distance in front of such automobile, and also a red light visible from the rear.

We would especially caution you to be careful to comply with the above provisions, as, in the event of an accident, the decisions are to the effect that the failure to comply with a statutory requirement constitutes negligence per se.

4. By section 169 the person operating an automobile, upon passing in either direction a person in control of a restive horse or domestic animal shall, at the request or signal (by the raising of the hand) of the person driving such animal, immediately stop the automobile and remain stationary to allow the horses or domestic animals to pass.

For the same reason that we have urged the compliance of the last section, we think that great care should be exercised at all times to comply with this provision.

There, of course, will be many different circumstances under which the automobilist will be called upon to obey this section and much must necessarily rest with the good sense and discretion of the automobilist.

It is impossible in this report to make suggestions which will cover all of the cases which will probably arise. Attention is, however, called to a few instances of the application of this section.

The horse or animal which is being driven upon the highway must be restive or excited in order to entitle the driver of the same to command the stop of the automobile.

Again the automobilist is simply required to remain stationary for a period of time sufficient to allow the restive horse or animal to pass or get out of the way. This, of course, means a reasonable length of time and is, naturally, dependent upon the degree of fright or excitement in the horse.

We call attention to the fact that the automobile is simply required to remain standing for a reasonable length of time, as the question has been suggested that a horseman could arbitrarily detain an automobile for an indefinite length of time, and absolutely prevent his passage. The statute was not framed with the purpose of merely enabling horsemen who are hostile to automobilists to interfere with their rights, but for the purpose of affording to horsemen having restive horses some definite method of enabling them to pass automobiles without danger of accident.

This provision is modeled on the statute of Great Britain, but it really makes by statutory provision that which is the common law, viz., that if, in the use of the same, he sees a horse in a state of excitement, the law might say that, as a

INTERESTING REPORT BY LAW COMMITTEE.

matter of prudence, the automobilist should stop for a reasonable length of time, and we herewith quote the opinion of Judge Gaynor, of the supreme court, in the case of *Knight vs. Lainer*:

The court—"You might see a horse in front of you in such a state of excitement that the situation would be one of such danger that the law might say, as a matter of prudence, you ought to stop for the time being."

5. Section 167 is a general statutory provision that no person driving an automobile shall run the same at a speed greater than is reasonable and proper, having regard to the traffic on the highway, or so as to endanger the life or limb of any person. Particular attention is also directed to this restriction. It is manifest that no speed ordinance can cover all the conditions of the use of the highway, and irrespective of the speed ordinance therefore automobilists should exercise great care in crowded thoroughfares.

We now will show the rights and privileges accorded to automobiles under this statute.

1. By section 155. This section referred to the use of heavy steam traction engines and required that they should be preceded by a person to warn persons on such highway of the approach of such engine, and that at night such person should carry a red light. It was suggested this section was so broadly drafted that it applied to light steam carriages; by the amendment in question it is provided that it shall not apply to any carriage or motor vehicle propelled by steam developing less than 25 horsepower.

2. Section 162. This defines an automobile irrespective of the motive power used in propelling the same, to be a carriage.

3. Section 163. This section was originally a special act known generally throughout the state as the Bicycle Liberty Bill, and provided that no officials in charge of any highway, public street, park, driveway or place should prevent any person from operating a bicycle on the same.

The first amendment consists in including with the bicycle a tricycle or an automobile, irrespective of the propelling power of the same, but it is provided that in the description of the highways so thrown open to the automobile, that there shall not be included a speedway set apart by law for the exclusive use of horses and light carriages.

The object of this exception is manifest. The speedway in New York city has not been used by bicyclists and is for the express use of fast trotting

horses. Beside the Harlem river speedway, a portion of the boulevard in Brooklyn, from Twenty-second avenue to the Kings Highway, has also been set apart as a speedway.

The next provision confers upon boards of supervisors the power of regulating the speeds of automobiles in counties outside of cities, providing, however, that no regular adoption by the authorities of either the city or the board of supervisors shall require an automobile to travel at a slower rate of speed than eight miles per hour in the built-up portions of the highway, nor at a slower speed than fifteen miles where the same is not built up.

Automobilists, therefore, by observing the above rates of speed, and also observing the provisions of section 167, will not be annoyed by unwittingly infringing upon the rules or local regulations of towns and villages through which they may pass.

The last amendment contained in this section reserves to the park commissioners in New York city and also the park commissioners in other cities the right to regulate the speed of automobiles therein, and also to adopt special regulations either by way of requiring or prohibiting the use of bells or other appurtenances in such parks.

The park commissioner under this amendment has repealed the former regulation and adopted the following:

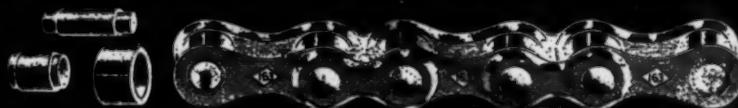
"No automobile or horseless vehicle shall be driven upon or over the drive at a greater rate of speed than seven miles an hour, and on meeting a horse-drawn vehicle or an equestrian this rate of speed shall be reduced to three and one-half miles an hour until the horse-drawn vehicle or horse has been passed, except under the provisions of a permit issued by this department."

In transmitting this new rule to the police and issuing instructions thereunder, Park Commissioner Clausen stated that the interpretation to be placed upon the last clause of the same was that all automobiles of the class to which he had heretofore issued permits were to be deemed as having a permit under the above section.

It was the belief of your committee that the above ordinance as passed was illegal and improper, and Mr. Clausen was requested to make an arrest, under which the legality of the above provision could be tested. The police, however, refused to arrest certain members of the club who desired to make the proposed test case, and informed the members of your committee that their instructions with regard to the above rule meant that

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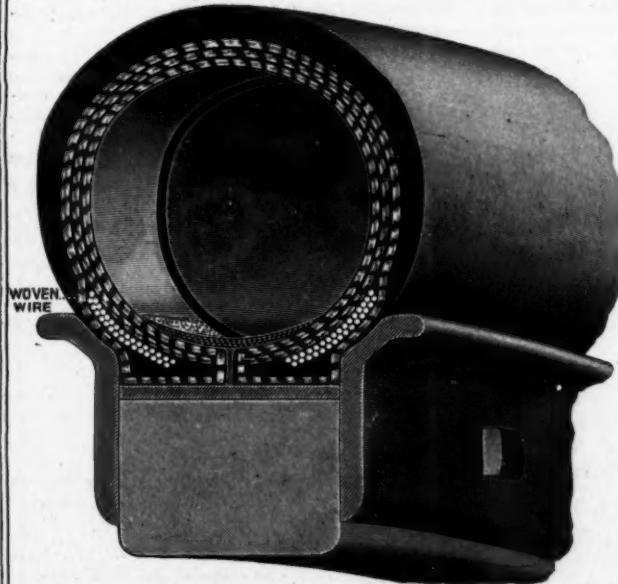
Twin Roller 1-inch pitch, 5-10 inch or 3-5 inch wide, will fit sprocket cut for regular Bi-Block pattern.

THE AUTOMOBILE AND CYCLE PARTS CO.

Diamond Chain Factory,

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Goodyear Detachable Tire



OUT-WEARS

All Others

EASY TO REPAIR

**The Goodyear Tire
and Rubber Co.
AKRON, O.**

LARGEST TIRE MAKERS IN THE WORLD.

INTERESTING REPORT BY LAW COMMITTEE.

the automobilists should only slow up in passing a horse when it appeared that the horse was restive or afraid.

Thus the park commissioner has put a practical interpretation upon his own resolution which is entirely in accordance with the statute, and what would be desired by your committee; yet such practical interpretation is certainly in direct variance with the letter of the rule, and it is the hope of your committee that the park commissioner will modify this rule so that it will specifically accord with the present usage of the park under it.

▲

Your committee also calls attention to the fact that in the use of Prospect Park in Brooklyn, Park Commissioner Brower has always permitted automobilists to use the West Drive in said park, and since the passage of the above statute, the Long Island Automobile Club has adopted a resolution that notwithstanding the provision of the statute, its members would confine themselves in the use of the park to the West Drive, as heretofore permitted by Park Commissioner Brower, and your committee would suggest that a similar resolution and a similar action by the members of this club should be adopted.

4. Section 169a. This section prohibits any municipality in this state from imposing or requiring any license or permit from automobilists.

The object of this section is twofold: First, to prevent the passage of local ordinances requiring automobilists to obtain special permits under penalty of being subjected to the annoyance of arrest, and, second, it relieves the owners of light steam carriages from the necessity of obtaining an engineer's license from each municipality where they desire to operate their steam carriage and enables the owner of such light steam carriage

to be as free to operate the same over the highways or parkways in this state as the owner of an electric or gasoline motor vehicle.

The above act of the legislature was a very timely and necessary one in the interests of automobilists, as but a few days after the act was passed, the appellate division in the fifth district rendered a decision in the case of Mason vs. West, reversing the decision of the court below. It may be recalled that Judge Sutherland below wrote a lengthy opinion upholding completely the rights of automobiles in the highway. The appellate division in the reversal of this case handed down a decision which, but for the passage of the statute in question, would almost have excluded automobiles from the public highways, and the importance therefore of this Automobile Liberty Bill cannot be overestimated.

The governors of the Automobile Club of America have therefore authorized the Law Committee to arrange with the defendant to take an appeal in his behalf, and obtain a decision from the court of last resort. This is now being done, for the club feels that it can render no more important service to the whole industry than to make every effort to set aside this decision. Counsel in Rochester has been retained, and the appeal will be perfected as soon as possible.

▲

The foregoing is a description of the provisions of these statutes by which the owners of automobiles are now placed on a broad footing in the use of all the public ways of travel of this state.

It is recommended that all club members should carefully observe both the spirit and letter of these laws, thus disarming public criticism and more firmly establishing the legal rights and privileges of the automobile throughout the land.



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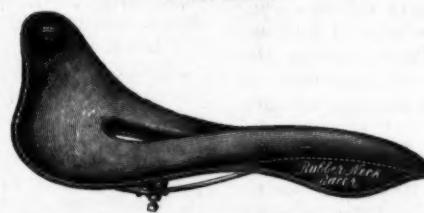


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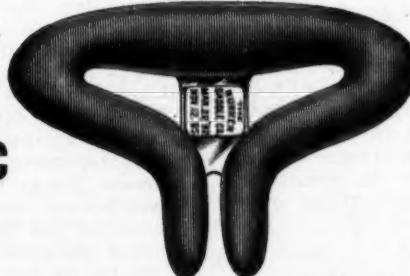
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This, like all other Rubber-Neck Saddles, is equipped
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We also manufacture other styles of Bunker steel and wood base saddles as well as
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WE ARE NOT IN A TRUST



FROM THE FOUR WINDS

HORSE ON THE POSTMASTER

A mail collection experiment, erroneously announced to be the first ever attempted in the United States, occurred at Indianapolis last week. The vehicle was loaned for the occasion by the Hearsey Vehicle Co. The result was somewhat humorous.

The collector, who has been long enough in the service to have the most wholesome respect for the rules of the department, happened to remember at the first mail box that the time of collecting the mail was scheduled on every box and under no circumstances could the driver of the automobile persuade him to infringe on the scheduled time. As a consequence, no time was made in the collection, as the collector insisted on waiting at each box until the time limit had expired.

Postmaster McGinnis has determined to take up an extra collection some day soon, however, and as there will be no handicap in the way of a time schedule the department expects to obtain some extraordinary results.



AUTOS GREET PRESIDENT

Automobiles figured noticeably in the flower pageant which formed part of the festivities of the recent reception in honor of President McKinley at Los Angeles, Cal. All of the vehicles in line were Waverley electrics. W. K. Cowan's two-seated vehicle, trimmed in carnations and green ferns, was one of the most striking in the procession.



T MAKES A DIFFERENCE

Cleveland's mayor, Tom Johnson, known all over the country as a baseball man of days gone-by and a sportsman to the backbone, recently bought an automobile for his daughter. Lately that young lady had an experience which, for a time, she expected to bring down upon her the parental wrath, for it is among the duties of the mayor to see to it that the city ordinances against excessive speed are properly respected. Miss Johnson set the law at defiance, however, and

this is how the Plaindealer tells the story:

It was Sunday afternoon and the mayor and Mrs. Johnson were quietly rolling westward on Euclid avenue when, about Bolton avenue, two automobiles went by with a roar and a rush.

Buzz-z-z-z-swish.

"Wha—wha—great scott! Another one of tho—tho—those blanked automobiles. Every one of those people ought to be—gee whiz! Why—wh—it's Bessie. It's my Bessie. And she's beating him—she's beating! She's—," and Cleveland's mayor hung half out the door of his elegant carriage, waving his free arm wildly above his head.

"Tom! Tom!" cried Mrs. Johnson in an agony of mortification. "For heaven's sake do sit down! You're making a spectac—."

"Why, it's my Bessie, don't you hear, and she's—she's—she's a block ahead. Go it, Bessie—go it—that's it—o-o-o-h—ah! Didn't she do it fine—not a hair's breadth to spare. And she's winning by a block—she's—confound that man Wilhelm! Why don't he sprinkle the streets! I can't see anything but a cloud of dust—but Bessie won. You bet she did. Bessie beat him by a block, and—," and Mayor Johnson sank back into his carriage, gasping and fanning himself.

"Bessie" was in the backyard when mamma and papa arrived superintending the rubbing down of her auto.

"Bessie! Bessie!" cried "papa," rushing toward his surprised daughter with wide open arms, "you beat him by a mile; beat him by a mile, didn't you? Oh, ha, ha, ha, he, he, he, ho, ho, ho—"

"Why—why—how did you know?"

"Saw it all; oh, ha, ha, ha—"

"I couldn't help it, pap. He—he—kept teasing me and—and—I just had to show him mine was the best."

"Don't say a word; don't say a word. Oh, ha, ha, ha—it was the best—the best—"

"And you're not angry, pap?"

"Angry! Oh, Bessie, you darling—beat him by a mile—and I saw it all—oh, ha, ha, ha—"

"So your daughter knows how to run

\$25.00 Reward NEVERLEAK

The average business man believes in decency and fair play in trade and usually respects the rights of others. Unfortunately there are exceptions and we are looking for those exceptions. Our inspectors are out getting evidence against infringers but as they cannot cover the ground thoroughly for some time, we make the above offer, particulars of which will be mailed on application. The following constitutes an infringement:

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and Glines Liquid Rubber are the Only Fluids that can be Legally used in PNEUMATIC TIRES



any fluid or liquid, not authorized or made by us, in any pneumatic tire, infringes our patent rights and is liable to serious trouble and expensive litigation. This applies to any private individual, repair man, or dealer, whether he injects a liquid into his own tires, into the tires of others or makes or sells such liquid for others to use or sell. It applies to any free flowing liquid, semi-liquid or substance capable of being converted into a liquid, no matter

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WHO WANTS



TO MANUFACTURE
A BRAND NEW, WELL
DESIGNED, ECONOMIC-
ALLY PRODUCED,
POWERFUL, GOOD
LOOKING, STRONG

MOTOR BICYCLE?

Designer has patent, expert mechanical assistance, knows the game and is prepared to engage in manufacture with the right party who will furnish capital.

ADDRESS M. B., CARE MOTOR AGE

FROM THE FOUR WINDS.

an automobile?" observed one who heard the mayor tell the story.

"Know how to run an—well—I guess she does. She's busted two boilers already. My daughter know how to run—well, of all the—"

•••

A MOTOR CYCLE TRIP

Carl Thorden has written the following account of a trip made by himself and two companions, from Buffalo to Rochester and return on Thomas Auto-Bis:

The country roads were bad and we could feel our rear wheels slipping in the wet clay and had all we could do to stay on our machines. We had to ride with caution at from five to eight miles an hour. We passed through Bowmansville and Mill Grove, and in spite of the weather could not help enjoying the picturesque country along the Ellicott creek. Many stops were made on account of slipping or taking tumbles into ditches, and quite often it took some time to decide if it would be advisable to return to Buffalo.

Near Corfu we found the roads nearly dry though a little rough. We were making better time when Lang ran out of gasoline $2\frac{1}{2}$ miles from Corfu. He started from Buffalo with a tank half full, and as we had no means of giving him ours he had to pedal. I rode ahead and arranged with a storekeeper for a fresh supply, but before I was ready for him he had arrived not minding the work of pedaling at all. We all got filled up, or I should say we filled our gasoline tanks, and made up for lost time as well as we could.

We did not reach Batavia until 1:40 p. m., and only stopped a few minutes and then went ahead at good speed, my speedometer registering nearly 4 minutes to the mile. The weather now was fine, and speeding through a fine country was quite exhilarating. We passed through South Byron, and West Bergen with the roads all very fair.

At Bergen we passed onto the Monroe Co. Cycle Path which was excellent riding and covered at the rate of 3 minutes to the mile. At Churchville Butler and I stopped for dinner. We had not eaten anything since 5:30 in the morning.

At 4:45 I resumed my trip to Rochester and left Butler, who returned to Buffalo in less than three hours.

The ride from Churchville to Rochester I had to take alone as Lang went ahead without dinner. It was rather cold riding and I often had to pedal to keep warm. I arrived in Rochester at 5:45 nearly frozen and turned into the hotel very glad to find a warm, dry spot. I had covered 73 1-8 miles without a single

stoppage on account of my Auto-Bis, and although I had taken several bad spills the machine ran just the same from the beginning to the end.

I found Lang the next morning.

The trip back was started at 1:30 p. m. over the Ridge road. This road is well worth some special remarks as it is the finest I ever saw. For 30 miles from Rochester we rode on excellently kept cycle paths through beautiful country. We made good time and the first 24 miles were covered in a little less than 1 hour and 15 minutes. Three short stops were made in this time.

Lang seemed to have higher aspirations than running into such small things as chickens. About 10 miles further on he noticed two calves tied to a fence and making goo-goo eyes at him. Suddenly the larger calf tore himself loose from the rope and just managed to get in the middle of the path in time to give Lang a chance to show his gymnastic abilities.

Catalogue Department

THE MOTOR AGE has established a catalogue department and will forward the catalogues of any or all advertisers on request.

The objects of this department are as follows:

1. To save the reader the trouble and expense of writing to each individual concern whose catalogue he may need.
2. To place advertisers in direct communication with prospective purchasers.

Applicants for catalogues will please state specifically the names of the concerns whose catalogues they desire and enclose stamps to cover postage.

Applications should be addressed

to the Catalogue Department, MOTOR AGE, Monon Building, Chicago.

FROM THE FOUR WINDS.

I was just far enough behind to see a comical collision. The calf, Lang and the Auto-Bi all went up in the air at the same time, and the two latter came down with a crash. The calf stood in the middle of the road with his tail in the air looking as if he was still wondering what struck him. None was hurt.

We proceeded without further obstructions over a still excellent foot-path (in all about 80 miles from Rochester) and reached Lockport, where we stopped for a filling up of gasoline. We had to make a few stops on the home stretch on account of Lang's engine running dry of oil, so we oiled her up a few times with a small oil can. The cause of this was that he had neglected to provide himself with enough oil at the start from Buffalo and had to suffer for it.

When we proceeded from Lockport it was getting dark and to make the matter worse we got into roads that would have taxed a good rider at daylight. We managed to ride about a mile when I tried to light my acetylene lamp. It would not work, but we did not give up riding until after I had taken a complete header over the handle bars. We then gave it up as a bad job, took the belts off our Auto-Bis, and walked to Pendleton Center, where we arrived at 8:45 p. m. We managed to get the Lockport car to take our machines on the front of the car. I got off at Tonawanda where the roads were good and completed the trip to Buffalo, 89 miles in all from Rochester without a single stoppage on account of my machine.

This trip was a good and substantial proof of the merits of the Auto-Bi for a long and rough country ride.

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GERMAN REGULATIONS

New police regulations at Bremen, Germany, provide that all motor vehicles be equipped with easily working steering gears and trustworthy brakes, and all excessive noise and obnoxious smoke, steam or smell is to be avoided. When a speed of fifteen kilometers (nine miles) an hour is used, the automobiles must be so built that they can be stopped on asphalt pavement within eight meters (about nine yards) at most. Warning must be given with a bell. The lantern must be able fully to illuminate the way at least twenty meters (sixty-six feet) in advance. Every motor must have a number stamped by the police, the name of the maker, and the weight and horsepower on a clearly visible plate. The owner is responsible for his automobile and for the driver, and must notify all changes concerning it, or his address, to the police. The driver must be over 18

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SPEED
IS THE
CUSHION
FRAME
MOTTO**

The CUSHION FRAME is positively the greatest bicycle invention since the advent of the pneumatic tire. It practically increases the resiliency of the tire four fold without in the least detracting from the speed or power of the wheel (as compared with the so-called rigid frame). The most enthusiastic converts to the **Cushion Frame** are the old-time, speedy "get there" riders who at first "scoffed" the idea of COMFORT being combined with "speed and power" in a bicycle :: :: :: ::

HYGIENIC WHEEL CO.

220 Broadway, NEW YORK

Owners of the **Cushion Frame** Patents.

FROM THE FOUR WINDS.

years of age, and must have an official certificate from a public expert or from a driving school of good standing.



A CENTURY IN TEXAS

Mrs. L. M. Adams, the Mobile agent at Houston, Tex., made a trip to Galveston and return accompanied by D. E. Sturgis, on May 29. Although the roads were in quite bad condition, other things were favorable for speedy traveling and an exceptionally good record for the initial trip was made.

The distance traversed, by the cyclometer measurement, was about 110 miles, and the trip including several stops was made in twelve hours and thirteen minutes, leaving Houston in the morning at 7:07 and arriving on the return at 7:20 in the evening.



DE DION TAKES TO WATER

L. L. Whitman and wife, of Pasadena, Cal., recently made a novel trip on their DeDion Motorette. They traveled from Pasadena to San Gabriel river and to Azusa, a distance of 15 miles, and then to Quartz and El Monte Puente and Pomona; returning by way of Lordsburg, San Dimas, Glendora, Azusa, Monrovia and Pasadena, a total distance of 82 miles. From Puente to Spadra the road is adobe, and after the late rains it dried in a rough condition. Mr. Whitman preferred to dare the ford in the San Gabriel, via Azusa, to returning by way of Puente. The three fords between Azusa and Duarte were made without trouble, and Mr. Whitman says that it was a great sight to see the way the water flew when the last stream was crossed, the Motorette ploughing through without trouble. The entire distance was made at an average speed of 12 miles an hour.



Automobiles are completely supplanting coaches in Paris. The one from the Herald office to Fontainebleau, which ran last year, began running again a few weeks ago. Now another automobile has started a service between the Herald office and Chantilly on Thursday and Saturday and between the Herald office and Versailles on Monday and Wednesday. The Versailles and Chantilly automobile rejoices in the not very French name of Ladybird.

W. H. Artzberger, the well-known Alleghany City (Pa.) painter, whose famous pictures of great value have been exhibited throughout the country, is an automobile enthusiast. While a representative of this paper was viewing some

of his productions, in Alleghany city, Mr. Artzberger told of his interest in the automobile and stated that he was agent for the Baldwin and had sold several carriages.

Two Cleveland people will make an attempt to ride from New York to San Francisco, solely for the pleasure they can get out of the trip. They are Arthur Jones, secretary of the W. M. Patterson Supply Co., and H. P. Dyer, of H. P. Dyer & Co. They expect to start some time this week.

Having been asked for an opinion, by one of the police commissioners, Corporation Counsel Whalen, of Brooklyn, N. Y., has decided that operators of automobiles in that state cannot be required, under the present law, to take out licenses.

Minneapolis now has about 60 automobiles and the local papers report that one of the dealers rents machines to responsible parties. It is believed that the city will have not less than 200 machines before the end of the season.

When you want to buy automobiles, cycles, or accessories write to the Motor Age. It will place you in communication, immediately, with the people who have the goods for sale.

George Miehling, of the Olympic club, San Francisco, has an idea that he can make the trip from that city to New York and is preparing to get a machine for the purpose.

MISCELLANEOUS

Advertisements under this head 5 cents per word first insertion; 2 cents per word each insertion thereafter. Cash with order. Express orders, postoffice orders or stamps received.

FOR SALE

FOR SALE—The Automobile Storage and Repair Co., 57 West 66th St., New York, have new and second-hand steam, gasoline, and electric carriages constantly on hand and have always some special bargains.

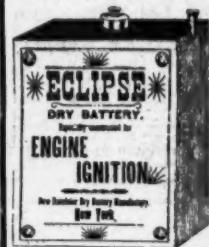
FOR SALE—Keene wheel lacing and truing
shuck cost \$12.50, first draft for \$6.25 gets it.
SHIRLEY CARMELL, Hartford City, Ind.

WANTED

WANTED—Mechanics and others to buy castings and working drawings of a light automobile; also of light gasoline engines. Build for your own use or sell at a profit. Send for new catalogue. A. C. DYKE, Linmar Bldg., St. Louis, Mo.

WANTED—By private party who keeps two steam automobiles first class machinist to run machines and keep them in repair. Steady employment for the right man. State experience and where at present employed. Salary \$17.00 per week. MACHINIST, care of Motor Age.

NEW EXCELSIOR DRY BATTERIES ENGINE FOR IGNITION



Our "Eclipse" Cell the most EFFICIENT
Dry Cell made

Adopted by two of the leading Automobile Manufacturers.
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NEW EXCELSIOR DRY BATTERY MANUFACTORY
108 GREENWICH STREET, NEW YORK

INTERNATIONAL AUTO- CAR AGENCY

Automobiles of every style and make. NEW
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the best terms.

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FRENCH MACHINES
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All
Makes

Can make quick deliveries of any Continental
machine, either new or second-hand; also
accessories—having special facilities for hand-
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three weeks. :: :: :: :: ::



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for Automobiles, including
special oils for Gasoline and
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NEW YORK



SUMMER HOMES.

In the Lake Country of Northern Illinois, Wisconsin, Minnesota and the Upper Peninsula of Michigan, on the line of the Chicago, Milwaukee & St. Paul Railway are hundreds of most charming Summer resorts. Among the list are: Fox Lake, Delavan Lake, Lake Geneva, The Lauderdale Lakes, Waukesha, Oconomowoc, Palmyra, The Dells at Kilbourn, Elkhart Lake and Madison, Minocqua, Star Lake Frontenac, White Bear, Minnetonka, Marquette, Spirit Lake, Okoboji, Big Stone Lake, etc., etc.

For illustrated booklets "Summer Homes for 1901," and "In the Lake Country," send address with six cents in postage to F. A. Miller, General Passenger Agent, Chicago, Milwaukee & St. Paul Railway, Chicago, Ill.

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Bicycle, Driving and Automobile
HEAD-LIGHTS
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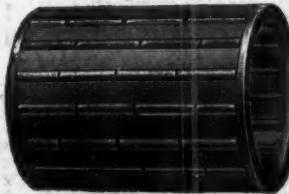
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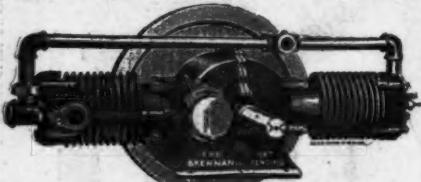
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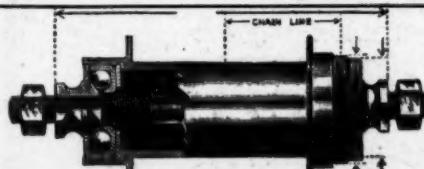
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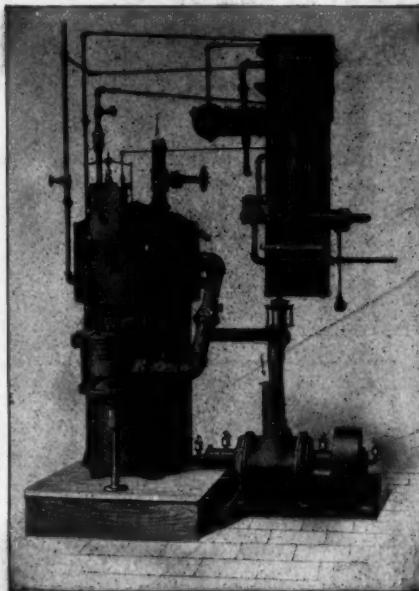
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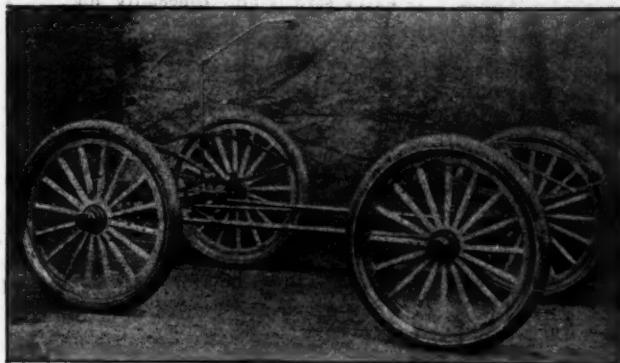
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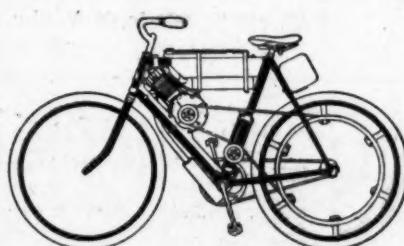
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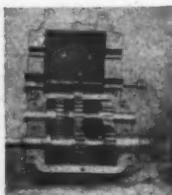
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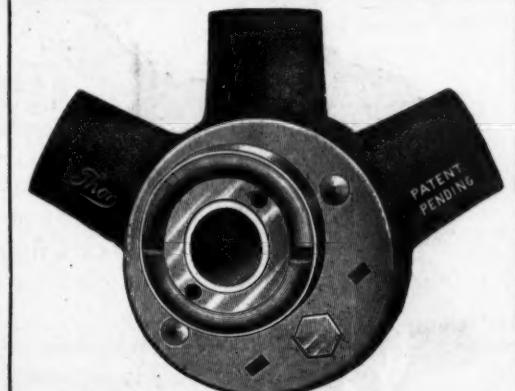
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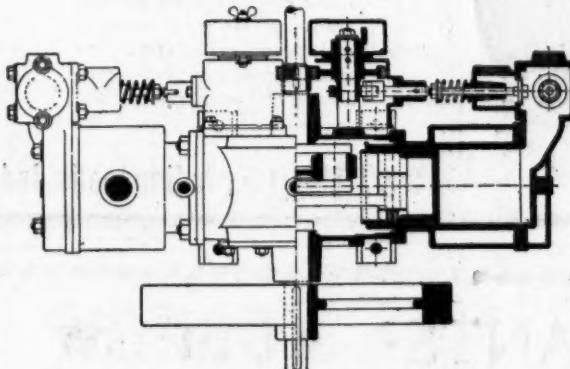
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